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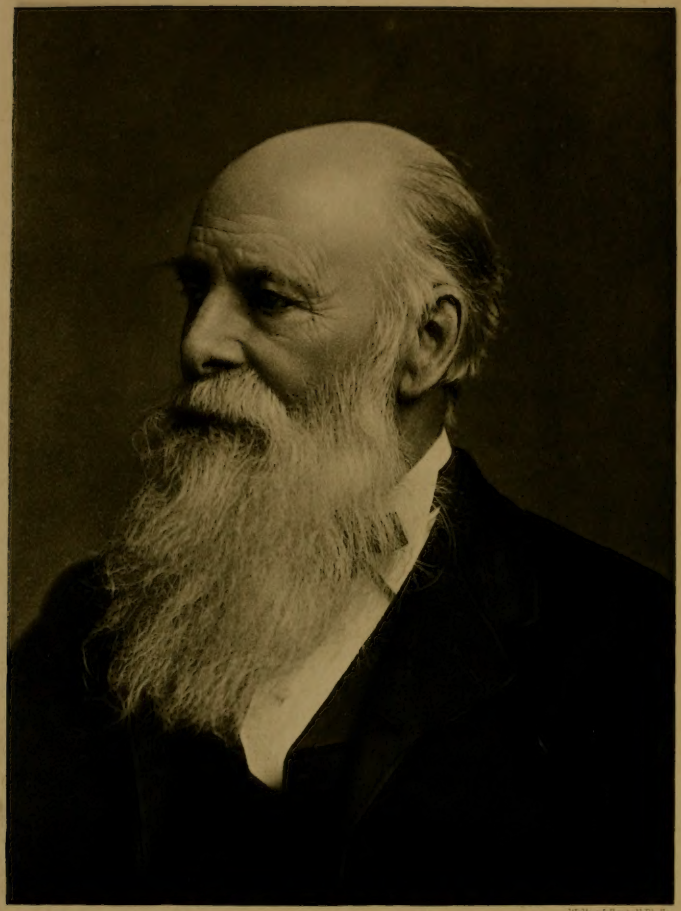

Walker & Boutall Ph. Sc.

Charles C. Babington

MEMORIALS JOURNAL

AND

BOTANICAL CORRESPONDENCE

OF

CHARLES CARDALE BABINGTON

M.A. F.R.S. F.L.S. F.S.A. F.G.S.

FELLOW OF ST. JOHN'S COLLEGE CAMBRIDGE AND PROFESSOR OF BOTANY IN THE UNIVERSITY

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The Father of modern philosophy observes, "Certain it is that truth and goodness differ but as the seal and the print; for truth prints goodness." This is the impression which we would have continually made on the learner's mind by all his studies, whether they relate to the works or to the ways of God, to nature, or to history. In all he should be led to seek, and to love, wherever it is found, the True, the Beautiful, and the Good. Where such is the prevailing spirit of the place, the School becomes holy ground; a temple ever ringing with the exhortation: "SURSUM CORDA." UPWARD, HEARTS—upward, above all paltry, sordid, grovelling aims and desires; upward, to a level with the dignity of your calling, the privileges and duties of your station, the importance and arduousness of your work; upward, to a fellowship with the wise and good of all ages and all nations; upward, to the Father of Lights, the Fountain of all Goodness: LIFT UP YOUR HEARTS. And from the inmost depths of many devoted wills there rises the clear response: WE LIFT THEM UP UNTO THE LORD.

CONNOP THIRLWALL, *The excellence of wisdom*, a Sermon preached at Llandingad Church, Llandovery, on the occasion of laying the Foundation Stone of the Welsh Educational Institute, Dec. 13th, 1849 (*Remains*, London, 1878, III. 352).

To the dear memory of

him

whose precious affection has been and is

GOD's richest gift to me

this volume

is tenderly and reverently dedicated.

Thy fruit full well the schoolboy knows,
  Wild bramble of the brake!
So put forth thou thy small white rose,
  I love it for his sake.
Though woodbines flaunt and roses glow
  O'er all the fragrant bowers,
Thou need'st not be ashamed to shew
  Thy satin-threaded flowers;
For dull the eye, the heart is dull,
  That cannot feel how fair,
Amid all beauty beautiful
  Thy tender blossoms are!
How delicate thy gauzy frill!
  How rich thy branchy stem!

* * * * *

The primrose to the grave is gone;
  The hawthorn flower is dead;
The violet by the moss'd grey stone
  Hath laid her weary head;
But thou, wild bramble, back dost bring,
  In all their beauteous power,
The fresh green days of life's fair spring,
  And boyhood's blossomy hour.
Scorn'd bramble of the brake! once more
  Thou bid'st me be a boy,
To gad with thee the woodlands o'er,
  In freedom and in joy.

EBENEZER ELLIOTT, *To the Bramble Flower.*

PREFACE.

This volume is issued in response to the earnestly expressed wish of many friends. It would be difficult for any one pen to pourtray a life so many-sided, so varied in its interests. This difficulty has been met, it is hoped, by combining within the compass of one volume the following threefold arrangement—Memorials and Reminiscences; Journal; and Botanical Correspondence. It is thus hoped that every class of reader may have brought together each side of this beautiful life, even though all may not be able equally to enter into each portion of it.

I. Memorials and Reminiscences. It has been distinctly felt that little if anything could be added to the rich and graceful tribute from the pen of the Rev. Professor J. E. B. Mayor, written for the *Eagle* (St. John's College magazine) in the Michaelmas term, 1895, which, expanded by himself, forms the opening portion of this volume. Another article by the same hand is reprinted from the *Cambridge Chronicle* of Aug. 30th, 1895, and, with the remaining articles from various able and admiring contributors, completes this portion of the book. It is difficult, indeed impossible, to convey to the readers of these pages how deep is the debt due to Professor Mayor, for all the valuable time so freely given, the labour and minute care so unweariedly bestowed, whilst aiding in the compilation of a work, which from the very first has received his warmest encouragement and sympathetic support. His heart has found delight in the progress of every page of the book, and thus has he set his seal to the faithful, stedfast friendship which has extended over very many years.

It is felt that his best reward will be the consciousness that in thus generously contributing of his learning and time, he has largely enabled a wide circle (to whom this life may be at present perhaps too little known) to realise what a possession has been entrusted to Cambridge for well-nigh sixty-nine years, in having had enrolled amongst her members the pure and noble name of him herein pourtrayed. Thus will he have contributed to hand down to future generations of students the priceless inheritance of so inspiring a record. Special thanks are due to the writers of each of the other "Reminiscences" for permission to reproduce them here, as well as to other friends who have written for this volume.

II. Journal. From this record, which extends over well-nigh a whole life, extracts have been carefully made, as far as was possible to unfold the daily life in special connexion with its botanical, archaeological, and philanthropic interests. The record in its simplicity, and truth-loving utterances, furnishes its own portrait of the mind therein revealed. This portion of the book closes with "Notes" by Professor Mayor which help to elucidate various points contained in the articles.

III. Botanical Correspondence. It is earnestly hoped that botanical readers will feel that a right selection has been made from the very large supply of letters kindly placed at the disposal of the Editor. Nearly eight hundred of these were received and copied. This selection owes much to the able assistance of I. H. Burkill, Esq., Gonville and Caius College, late Assistant Curator at the University Herbarium.

It has been a source of much regret that many letters were unattainable, whose insertion here would have been heartily welcomed by botanists, *e.g.* a large number written to the revered and valued friend of many years,

the late Rev. W. W. Newbould; also those written to the brilliant young naturalist of Shetland, T. Edmondston, Esq., whose early death cut short a career of much promise. In both the above instances the letters have been destroyed. It was hoped that some written to Herr Baron Sir Ferdinand von Müller, K.C.M.G. (Melbourne, Australia) would have been included; he had kindly promised to send them, but his sudden death on Oct. 9th, 1896, has rendered it impossible to hope for what he had himself said would be difficult to find. There are other names amongst our botanists to whom letters extending over many years were written, but of which no trace can be found. The Editor is most grateful to all who have aided in this search. Should it happen that the publication of the letters included in this volume may lead to the discovery of others of equal interest to botanists, the Editor will only too gladly take measures to render them as accessible as possible to the class of readers who would welcome their appearance.

No letters to foreign botanists are included (with the exception of three inserted in an Appendix), for in addition to the extreme difficulty of obtaining them, owing in many cases to the impossibility of tracing the representatives of these correspondents, it was felt that their insertion—had they been attainable—might cause the volume to exceed the limit in size which was deemed desirable. The following are the names of some of the leading foreign botanists who may be considered correspondents: Elias Fries (Upsala), J. Lange (Copenhagen), W. O. Focke, M. F. Crépin (Brussels), H. Reichenbach, O. Gelert, Jacques Etienne Gay, C. H. Schultz, F. Schultz, J. Lloyd (Nantes), L. Rabenhorst, R. Lenormand, Reuter, A. Jordan (Lyons), A. Huet de Pavillon, Ch. Grenier, C. Billot, L'Abbé Questier, Philipp Wirtgen (Coblenz),

C. J. Lindeberg, R. B. Van den Bosch, Henri von Heurck, R. C. Du Mortier, and Asa Gray.

Special thanks are due to R. F. Scott, Esq., Bursar of St. John's College, for his great kindness in bestowing so much time in the careful preparation of the beautifully executed abstract of a pedigree, which is inserted in the volume at the request of friends. Also to E. Magnússon, Esq., Assistant Librarian to the University, for his kindness in verifying Icelandic words.

Grateful reference must again be made to the kind assistance of I. H. Burkill, Esq., who has made Index I., as well as for all his unfailing readiness to help in a work which has had his heartfelt interest, and whose true affection for and admiration of his revered Chief have found expression in his words to Mr. Britten (see article by James Britten, Esq., *Journal of Botany*, Sept. 1895).

To the publishers and printer the Editor desires to convey her special gratitude for the ability and sympathetic interest bestowed on every detail of the work.

As the one aim in this book has been to let the life therein unfolded be its own witness, it is hoped all shortcomings and imperfections on the part of the Editor may be forgiven. Should the perusal of these pages inspire other lives to desire to walk as he walked, the path of stedfast integrity, reverent humility, and unswerving faith and love, this record will indeed fulfil its mission.

> Great deeds cannot die:
> They with the sun and moon renew their light
> For ever, blessing those that look on them.

A. M. B.

5, Brookside, Cambridge,
August 26, 1897.

CONTENTS

PAGE

TITLE iii

CONNOP THIRLWALL, 'The School a Temple' . . . iv

DEDICATION v

EBENEZER ELLIOTT, 'The Bramble Flower' vi

PREFACE . . . . . vii—x

CONTENTS . . . . . xi—xiv

MEMORIALS . . . . . xv—xciv

WILLIAM WORDSWORTH, 'Hallowed Ground' . . . xvi

MEMOIR by Professor Mayor. . . . . xvii—xxix

Cambridge in 1826, xvii.—Founder and active member of scientific societies, xvii.—Loyalty to College and University, xviii.—Travels, xviii.—Services to Botany and Natural Science, Camb. Philos. Soc., Ray Soc., Marlborough College, xix.—Member of British and Foreign Societies, British Association, xx.—*Babingtonia pestifera*, Field Botany, xxi.—Printed works, xxi-xxiii.—Camb. Ant. Soc., xxiii, xxiv.—Helper to unknown merit, R. C. Ready, T. H. Corry, Jani Alli, xxiv.—Interest in Missions, Home and Foreign, xxv, xxvi.—Inner life, xxvi-xxviii.—Pedigree and cardinal dates, xxviii, xxix.

NOTES ON MEMOIR . . . . . xxix—xxxiv

Inscriptions on tomb at Cherry Hinton and on brass in St. John's chapel, xxx.—Ray Club, xxxi, xxxii.—Oxford Meeting of Brit. Assoc. 1860, *ibid.*—*Elodea Canadensis*, xxxii.—S. S. Lewis, R. C. Ready, T. H. Corry, xxxiii.

REMINISCENCES . . . . . xxxv—xxxviii

1. By the Rev. J. A. Babington:
   His humility and faith, xxxv, xxxvi.—Sincerity and reticence, xxxvi.—Interest in Missions, xxxvi, xxxvii.—Love of reading; of College and University, xxxvii, xxxviii.—Industry, xxxviii.

2. By H. R. Francis, Esq.:
   Sense of stewardship; the two great commandments, xxxviii.

FIELD PREACHING . . . . . xxxix—xli

1. By Professor Cowell:
   Enthusiasm and power of teaching, xxxix.

2. By Mrs. R. B. Batty:
   Heaths in Connemara, xl.—Irish Church Mission at Roundstone, xli.

PAGE

LETTERS TO MRS. BABINGTON . . . . . xlii—li

From the Bishops of Durham and Gloucester, xlii.—From the Master of Trinity, *ibid.*—(St. Barnabas' Memorial Institute, xliii).—Masters of Clare and St. Cath. xliv.—Bishop Selwyn, the Rev. A. M. W. Christopher, Baron Ferd. v. Müller, xlv, xlvi.—Nath. Bridges, Esq., xlvi, xlvii.—Miss Marsh, the Rev. Dr. James Macgregor, xlvii.—Professor Liveing, Alfred Fryer, Esq., xlviii.—The Ray Club, xlviii, xlix.—Camb. Philos. Soc., Camb. Ant. Soc., xlix.—Report of Museums Syndicate, 1895, l.—E. S. Cobbold, Esq., l.—Extract from Sermon by Master of St. John's, li.

IN MEMORIAM, by Professor Mayor . . . . . li—lvii

St. John's hall, 1853-66, li.—His reticence, lii.—Library and favorite studies, lii, liv.—Love of Missions, liii.—Publications, liii.—Address to the Ray Club, 1887, liii, liv.—Interest in Reform movements in Italy and Spain, liv.—The Girls' Orphan Home, lv.—Sunday Rest in the Botanic Garden, lv.—Postal and Telegraph Christian Association, lvi.—The *two Bibles*, lvii.

IN MEMORIAM, by Professor Liveing . . . . . lvii—lx

Centre of activity (1846) to students of Natural History, lviii.—A study then neglected, lviii.—Encouraged students, lix.—Liked to study the living plant or animal, lix.—The British Association, lix, lx.—No one-sided man, lx.

IN MEMORIAM, by Dr. H. C. G. Moule . . . . . lx—lxii

At Glas Meol in 1883, lxi.—His love of history and recollections of old Cambridge, lxi.—His interest in Christian work, lxii.—Mottos, lxii.

FROM "THE CHRISTIAN" . . . . . lxiii—lxiv

God in Nature and Grace, lxiii.—Love of Missions, lxiii, lxiv.

ON IRISH DISTRESS. Letter to *Camb. Chron.* Jan. 20, 1840, by C. C. B. . . . . lxv—lxvii

OBITUARY, by James Britten, F.L.S. (from *Journal of Botany*, Sept. 1895) . . . . . lxvii—lxxvii

Parentage and schools, lxvii.—Henslow's lectures; Flora of Bath, and of the Channel Islands, lxviii.—*Manual*, lxviii-lxxii.—Work at Cambridge, Ray Club, lxxii.—Ray Society; papers on plants and insects, lxxiii.—*Rubi*, lxxiv.—Professor of Botany; his assistants, lxxiv, lxxv.—As a correspondent, lxxv.—Religious life, lxxv, lxxvi.—And the new Botany, lxxvi, lxxvii.—Closing years, lxxvii.

BRITISH RUBI, by James E. Bagnall, A.L.S. . . . . lxxvii—lxxx

PROFESSOR BABINGTON ON RUBUS IN 1891 (from *Journal of Botany*, July, 1896, sent by the Rev. W. Moyle Rogers) lxxx—lxxxvii

OBITUARY NOTICE, by J. G. Baker, F.R.S. (from *Obituary Notices, Proceedings of R. S.* Vol. 59) . . . . lxxxvii–lxxxix

PAGE

PROFESSOR BABINGTON AND THE CAMBRIAN ARCHAEOLOGICAL ASSOCIATION, by Archdeacon D. R. Thomas, F.S.A., Chairman of the Association . . . . . lxxxix—xc

PROFESSOR BABINGTON ON THE SUNDAY OPENING OF THE BOTANICAL GARDEN, 1881—82 . . . . . xci—xciii

A DIRGE, by T. H. Corry, M.A. xciv

JOURNAL . . . . . xcv—261

CONNOP THIRLWALL, 'The Christian Naturalist' xcvi

1808-26, Birth and childhood, schools, study of botany, 1-3.—1826-30, Enters at St. John's, father's death, Henslow's lectures, B.A. Degree, 3, 4.—1830, Welsh tour, F.L.S.; 1832, Welsh tour, Shropshire, 4-16.—1833, M.A., Brit. Assoc., Entom. Soc., mother's death, 16-19.—1834, *Flora Bathoniensis*, Norfolk, Bath, North of England, Scotland, Thirlwall's dismissal, 19-34.—1835, University interference in Town Elections, Bath, Wales, Ireland, 34-48.—1836, F.G.S., Ireland, Bristol, Bath, Southampton, 48-59.—1837, Ray Club, Suffolk, Cambs., Leicestershire, Channel Islands, Liverpool, Fitzwilliam Museum, 59-69.—1838, Channel Islands, Scotland, 69-78.—1839, *Primitiae Florae Sarnicae*, Bristol, Cornwall, Devon, Wales, Henslow leaves Cambridge, 78-85.—1840, Bath, Norfolk, Suffolk, Wales, Ireland, Scotland, 85-97.—1841, Bath, Cambridge, Ireland, Hebrides, Scotland, 97-110.—1842, Editor of *Ann. Nat. Hist.*, Manchester, North of England, Scotland, 110-117.—1843, *Manual*, the Lakes, Ireland, 117-123.—1844, New Botanic Garden, Scotland, 123-127.—1845, Scotland, 128-131.—1846, Iceland, Scotland, 131-138.—1847, Oxford, Prince Albert Chancellor, Wales, 138-143.—1848, Wales, 143-147.—1849, Somerset, North Devon, Sussex, Herefordshire, Camb. Nat. Club, 147-152.—1850, Bath, Cambs., Suffolk, Oxford, Somerset, North Devon, Scotland, 152-157.—1851, Ipswich, Somerset, Wales, 157-162.—1852, Cambs., Ireland, flood at Cambridge, 162-166.—1853, Norfolk, Cambs., Sussex, Bath, Hull, Herefordshire, Bath, 166-172.—1854, Cambs., Wales, Liverpool, Birmingham, E. A. Freeman, 172-176.—1855, Cambs., Herts., Wales, 176-179.—1856, E. A. Freeman, Wales, Cambs., West of England, Herefordshire, Wales, 180-185.—1857, Cambs., Wales, Dublin, North Wales, flood in Cambridge, 185-188.—1858, Botanic Garden, Cambs., Bath, E. A. Freeman, Wales, Ireland, Leeds, 188-192.—1859, Cambs., Aberdeen, 192-194.—1860, Hurricane at Cambridge, Oxford, Wales, frost at Cambridge, 194-196.—1861, Elected Prof. Bot., Wilts., Peterborough, Wales, Yorks., 196-199.—1862, Lectures, Wales, Brit. Assoc. at Cambridge, 199-200.—1863, "Labyrinth" taken down, Wales, 200-202.—1864, Member of Council of Senate, Wales, Bath, 202-203.—1865, New Botanical Museum, Isle of Man, Ireland, Wales, New Hall of St. John's, 203-205.—1866, Marriage, Wales, 205-206.—1867, Devon and Cornwall, 206-208.—1868, St. Barnabas Church, Yorkshire, Wales, whirlwind at Shelford, 208-209.—1869, Wales, Ludlow, 209-211.—1870, *Iceland Flora*, Wales, North of England, 211-213.—1871, Cambridge Orphan Home, Scotland, 213-215.—1872, Wales, 215-216.—1873, Wales, Ireland, Irish Church Missions, 217-219.—1874-75, Wales, 219-222.—1876-77, Wales, Jani Alli, 222-224.—1878-79, Wales, Yorkshire, thunderstorm at Cambridge, Derbyshire, Wales, Yorkshire, 224-229.—1880-81, Wales, Shropshire, Yorkshire, 229-234.—1882, Wales, Yorkshire, 234-237.—1883, Bucks., Wales, Cornwall, 237-240.—1884, Devon, North England, 240-244.—1885, "The Cambridge Seven," Oxfordshire, Scotland, 244-247.—1886, North England, Scotland, Bishop Parker, 247-250.—1887-88, Sussex, Braemar, 250-254.—1889-90, Death of Churchill Babington, Braemar, 254-257.—1891, Braemar, 257-258.

L'ENVOI.—1891-95, Closing years, 258-261.

PAGE

NOTES ON JOURNAL . . . . . 262—270

Pupils of the Rev. W. Hutchins, 262, 263.—J. B. Hollingworth, John Edward and Charles Henry Bromby, James Bowstead, 264.—Connop Thirlwall and Tests; John Lawes, M. J. Berkeley, 265.—Charles Simeon, the influenza (1837), J. S. Henslow, W. H. Stokes, J. A. and Joseph Power, John Ball, W. P. Baily, 266.—W. L. P. Garnons, J. J. Smith, W. Borrer, J. S. Howson, G. E. Paget, W. Christy, L. Jenyns, 267.—George Bullock, H. Comyn, H. Penneck, C. J. Bird, W. S. Hore, Hendeka Club, 268.—Wilse Brown, A. W. Franks, W. C. Mathison, Fred. Townsend, C. E. Broome, J. B. Wilson, G. F. Reyner, Thomas Overton, W. H. Coleman, 269.—W. P. Wilson, Simeon Hiley, G. O. Fenwick, W. K. Clay, 270.

BOTANICAL CORRESPONDENCE . . . 271—445

C. C. B. 1833, 'Through Nature up to Nature's God' . 272

T. Gisborne, W. A. Leighton, 273.—Mr. MacCalla, of Roundstone, 274.—Channel Islands, 276-280.—Arthur Biggs, curator of Cambridge Garden, 278, 369.—T. Edmondston, 282.—Professor Balfour, 283.—Death of C. E. Sowerby, 287.—*Rubi*, 293, 296.—Graham's herbarium, 294-5.—Iceland, 297-300, 302, 356.—Oken's book, 302.—*Anacharis Alsinastrum*, 305, 444.—British Association at Edinburgh (1850), 308-9.—Stratton, curator of Cambridge Garden, 319, 329, 330.—A. G. More, 326,351.—W. W. Newbould, 332, 337, 344, 345.—*Flora of Cambs.*, 335, 336, 342, 351.—Local floras, 344.—Henslow's death, 352.—Professor of Botany, 352.—Barley and wheat raised from oats! 357.—Charles Darwin, 359, 361.—University herbarium, 361.—Botany at Harrow, 365.—Botany at Marlborough, 365-6.—Irish Church Missions, 371.—Death of G. R. Crotch, 372.—Dr. George Johnston, of Berwick, 373.—Death of Sir Chr. R. Lighton, 377.—Assistant curator of Cambridge Herbarium, 382.—How to find *Chara* at Waterbech, 388.—Genevier's herbarium, 392.—Mr. Lynch, new and most valuable curator, 393, 396.—F. Townsend's *Hants. Flora*, 397.—T. H. Corry, 399.—New London Catalogue, 408.—James Backhouse, 409.—Evolution, 414, 438.—Too old to attempt the tops of mountains, 420, 421, 424, 434.—Varieties of peat, 426.—*Scottish Naturalist*, 435.—Cone of *Pinus Mughus* under six feet of solid bog, co. Mayo, 441.—New Botanic Garden, 443.—Death of J. E. Gay, 445.—(For names of plants see Index I.; for names of correspondents see Index II.).

NOTES ON CORRESPONDENCE—Lives of botanists; L. Oken . 446

BIBLIOGRAPHY . . . . . 447—454, 475

INDEX I. (Journal and Correspondence) . . . . 455—467

INDEX II. (Memorials) . . . . . 467—475

Early Portrait to face page 1.

Late Portrait to face Title.

Babington Pedigree (*in pocket*).

MEMORIALS

I could not print
Ground where the grass had yielded to the steps
Of generations of illustrious men,
Unmoved. I could not always lightly pass
Through the same gateways, sleep where they had slept,
Wake where they waked, range that enclosure old,
That garden of great intellects, undisturbed.
Place also by the side of this dark sense
Of noble feeling, that those spiritual men,
Even the great Newton's own ethereal self,
Seemed humbled in these precincts, thence to be
The more endeared. Their several memories here
(Even like their persons in their portraits clothed
With the accustomed garb of daily life)
Put on a lowly and a touching grace
Of more distinct humanity, that left
All genuine admiration unimpaired.

WILLIAM WORDSWORTH, *The Prelude*, III. 258—274.

MEMOIR.

A courage to endure and to obey;
A hate of gossip parlance, and of sway.
TENNYSON.

But you have made the wiser choice,
A life that moves to gracious ends
Thro' troops of unrecording friends,
A deedful life, a silent voice.
TENNYSON.

The University has lost the Father, not of the professoriate alone, but of the entire resident body. The tale is rapidly shrinking, even of those who came to Cambridge before the Eastern Counties Railway; nay, before the Market-place was opened out; but Cardale Babington[1] remembered King's Parade a narrow street, while Kingsmen still kept in the court now annexed by the University Library and Geological Museum. St. John's had not enlarged its borders for one hundred and sixty years; it boasted only three courts when he was an undergraduate; as a B.A. he found quarters in the New Court in January 1831. For nearly ten years he ever and anon heard Charles Simeon preach. He had dined with William Wilberforce (†1833), who gave him his "Practical View."[2] He subscribed in 1835 £20 towards Cockerell's Building.[3] None but Masters of Arts, in his recollection, might enter the Public Library. He never set foot in the Library of his own College until it was thrown open to all degrees.

In every effort to widen University studies he bore a part; also in the birth of not a few scientific or antiquarian brotherhoods: he belonged to many and was a sleeping partner in none. Others of us might adorn councils by our names, while conspicuous by our absence; he by his presence; he was always 'of the *Quorum*'; of him it might be said, as of Socrates, *idem semper vultus, eademque frons*; were the audience overflowing or scanty, he was always alert, patient, untiring as that Nature which he loved. Benjamin Franklin betrayed to sluggard Paris a priceless secret: the Sun keeps his word; he never, by forslowing dayspring, 'gives almanacs the lie'; even so some-

thing must indeed be wrong if Cardale Babington were missing at any board. No private summons, however alluring, might cancel a public 'duty.'

The Babington family, with its allies, Gisbornes, Cardales, etc., had long been staunch Johnians, as may be seen in the printed pedigree given by Cardale, this very year (1895), to the library. From this I pluck below enough to link together the two cousins, with so many tastes in common, though the enthusiasm of the one was subdued, of the other more mettlesome and catching. In unquenchable thirst for knowledge, single-eyed service, loyalty to the College and to Cambridge, there was nothing to choose between them. Perhaps no copy of the *Eagle*[4] was more wistfully scanned or wears a daintier dress than that in No. 5, Brookside, though whether sporting news found there a wakeful listener, is a moot point. *In dubiis libertas.* Grateful to the College for lending him a home, as a simple M.A. not on the foundation, Cardale shewed his thankfulness by giving £100 for the new Chapel.

His wider patriotism was not less deep. Not without cause did he choose as the motto of the Cambridge Flora those words of Linnaeus:

Turpe est in patria vivere et patriam ignorare.[5]

Few men ever rifled, as he did, throughout their length and breadth, England and Wales, Scotland, Ireland,[6] and their satellites, Orkney, Shetland, Achill, Arran, the Hebrides, etc. As a boy he explored the country around Bath. In manhood, and even to old age, he spent vacations in tours, several times taking Glasgow students with him, while Professor Balfour led a troop from Edinburgh. His journals resemble Ray's in the even justice meted out to Natural History and Antiquities. Were a doubt started about any statement in his books, he seized the earliest opportunity to probe the matter to the bottom on the spot. Once he went to Iceland, twice to the Channel Islands. When urged to visit Switzerland, he pleaded: "If I go, I must botanize; I cannot help it. If I fall into a mistake there, I may never be able to go over the ground again."

One main stumbling-block, so I am told, of which he rid Botany,[7] was this. During the long war, botanists here and

beyond seas, had lost touch; their terms being different, they were 'barbarians' one to another. Babington discovered common ground, first with Germans, then with Frenchmen. Before his wedding, he must have been hard put to it to cope with foreigners; for he had no turn for the tongues. Scandinavians he always addressed in Latin.

As regards his influence here, a chum of forty years and more bears witness: he was "then the central figure among those in Cambridge who took delight in Natural History. And his simple character and keen interest in Nature were very attractive to younger men who had similar likings. He certainly did more, in my time, than any one else to promote the study of Natural Science in the University."

The Cambridge Philosophical Society was indeed born while he was in jackets (under Henslow and Sedgwick in 1819), but he was a member very early in his course, and long a Secretary. Of the founders of the Ray Club[8] Sir George Paget's death left him the only home survivor. Many younger members dropt off, but the ripe fruit hung on the bough to the last. In this year (1895), when rheumatism tied him to his chair, the Club still met in his drawing room. He also helped to create the Entomological Society, being at one time known as 'Beetles Babington'; several years ago he made over to the University his store, some 4000 insects. He was among the friends who sorted Charles Darwin's booty.[9]

Marlborough College, when I knew it (1849—53), paid no heed to Natural Science. It has since stood high in that pursuit, thanks to a pupil of Babington's. In his journal we read, under 18 June 1861:

> Went through London direct to Marlborough College, to help Mr. T. A. Preston[10] in the determination of a botanical prize.

What a spur he gave to young students may, it is said, be learnt from essays of undergraduates in botanical magazines.

For a sample of his correspondence see seven letters to him by Dr Johnston.[11]

When the customary notice of his death was sent to freemen of the mystery, one hundred and twenty-three copies were needed.

To the British islands and colonies they sped forth, to the United States, to Germany and Austria, Holland and Belgium, Denmark, Norway and Sweden, France, Switzerland, Italy, Venezuela—even to Japan. In 1894 the "Académie Internationale de Géographie Botanique" awarded him its gold medal. More than the homage to his mind was the posy on the reverse: *Laus et gloria Scientiarum Domino.*

Among his titles—which, by the rule *noblesse oblige*, were to him new burdens—I may name F.R.S., F.L.S., F.G.S., F.S.A., Hon. Member of the Botanical Society of the Province of Brandenburg, Foreign Member of the Royal Botanical Society of Belgium, Corresponding Member of the Botanical Society of Holland, Member of the British Archaeological Association, of the Royal Archaeological Institute, of the Irish Archaeological Society. The Botanical Society of Edinburgh[12] elected him a member at their second meeting. Till about 1889 he was Chairman of Committee of the Cambrian Archaeological Association. More than once or twice he was called on at a pinch, in default of the advertised speaker, to describe a church which he had never seen. He would crave a respite of some twenty minutes; even that hasty survey furnished stuff for a pregnant discourse: the truant lecturer, bustling up at the close, has been known to wish the company joy on their choice of a makeshift, and himself on masking his ignorance.

Babington belonged to the inner circle of the British Association;[13] first the 'Red Lion Club,'[14] then the 'Thorough.' I well remember his glee over Samuel Wilberforce's discomfiture by young Huxley.[15] In creed, doubtless, he held rather by the Bishop than by his rival, but he distrusted and hated clap-trap in the room of argument and fact. In later life he lamented the freak of fashion, banning Huxley's *Physiology* as outworn.

To cite all records of his friendly aid to fellow-labourers would drive me to rambles far and wide in a *terra incognita*. Take a sample. In the preface (p. vii) to *Memorials of John Ray* (Ray Society 1846) Dr Edwin Lankester writes:

For the identification of Ray's plants in the 'Itineraries,' for the botanical notes, and the Catalogue of Ray's Works, I am indebted to Mr Babington of Cambridge.

That Cardale, not Churchill, is here in question, appears from the initials 'C. C. B.' (pp. 126, 7, 186).

His name, in Cambridge, stood (like Bacchus, Ceres, Pallas of old) by metonymy for Botany in general. Thus when a weed[16] began to choke the Cam, as also Trent and Severn, it was christened *Babingtonia pestifera.* The term was handy as easily remembered; a spice of malice added flavour to the dish; that Babington was guiltless of the rover's growth did not concern the wags; nor indeed him: they had their jest, and kept their friend.

For his part he pitied the botanist who, never seeking living plants in their homes, armed with microscope ransacks their cell and fibre, spurning meanwhile the name of 'florist.'[17] A student of the first class in the Natural Sciences Tripos, espying stems of (what I will call) X in his drawing-room, on learning the name cried, "So that is really X? I know all about that; I guessed it would be set, and it was." Science which cannot see the wood for the trees, growing herb or animal for cell laid bare by scalpel, had for him no charm. His joy in Nature was the joy of a child. "My heart leaps up when I behold." "Solomon was not arrayed like one of these." From the soul he could echo Seneca's moan: *Non vitae sed scholae discimus.*

This freshness kept his old age green. Doctors, as he rallied from seemingly deadly fits of disease, would bear witness: "You were born to an iron constitution, nor have you trifled with the trust. Had you not been a plain liver, had you been even a smoker, you would not be alive at this hour." Verily old Döllinger is right: *L'homme ne meurt pas, il se tue.*

Field Botany certainly has length of days in her right hand. One hundred and sixty-two years (1733—1895) saw only four Professors of Botany: the two Martyns, John and Thomas, spanning 92 years between them.

Arm-chair scholars (*Stubengelehrte*), wheedled into a walk with the Professor, have not only found their eye quickened, and a keener zest given to communion with Nature, but have with new habits taken a new lease of life.

His chief works are:—*Flora Bathoniensis; a catalogue of the plants indigenous to the vicinity of Bath.* E. Collings,

Bath; G. Tremlett and W. Strong, Bristol; and Longman & Co., London, 1834. 12mo. Preface dated Bath, November 1833. A supplement was issued in 1839 (preface dated February 1839). The whole in pp. vi, 110 (not in British Museum Catalogue).[18] He had the use of the MS. Flora of Heneage Gibbes, M.B. of Downing College, for whom see *Alumni Oxonienses*.[19]

Primitiae Florae Sarnicae; or, an outline of the Flora of the Channel Islands of Jersey, Guernsey, Alderney, and Sark. London, 1839, 12°.

Manual of British Botany, containing the Flowering Plants and Ferns arranged according to the Natural Orders. London, 1843. 12mo. Second edition, 1847; third, with many additions and corrections, 1851; fourth, 1856; fifth, 1862; sixth, 1867; seventh, corrected throughout, 1874; eighth,[20] 1881, pp. xlviii, 485.

A synopsis of the British Rubi.[21] London, 1846. 8vo.

The British Rubi; an attempt to discriminate the species of Rubus known to the British Islands. London, 1869. 8vo.

Many critics lamented that all the species were not figured in this book. The riddle may now be read. The artist employed, J. W. Salter,[22] was indeed master of his craft, but fitful and wayward of mood. The press halted for the completion of the plates, till at last it seemed better not to mar the effect by employing a meaner pencil to finish Salter's work. A new edition has long been in hand; it is hoped that the Rev. W. Moyle Rogers, who has examined all additions, may carry it to a close. The study of brambles brought Babington into daily fellowship with F. J. A. Hort. The Cambridge Syndics bore the cost of paper and print of this book.

In 1848 appeared *Index to the Baker Manuscripts by four members of the Cambridge Antiquarian Society.* Cambridge. 8vo. (The preface, dated 7 January, bears the initials of J. J. Smith, C. C. Babington, C. W. Goodwin, and Joseph Power). As one who has been called to use these manuscripts more than anyone else ever did or is likely to do, I venture to express the gratitude of Cambridge antiquaries for this precious boon.

To return to his works:—

Flora of Cambridgeshire. London, 1860, 12°.

Ancient Cambridgeshire: or, an attempt to trace Roman and other ancient roads that passed through the county of Cambridge; with a record of the places where Roman coins and other remains have been found. Cambr. Ant. Soc. Publications, octavo series, No. 3, 1851. Sec. ed. much enlarged, 1883, pp. viii, 116, 8vo.

History of the Infirmary and Chapel of the Hospital and College of St John the Evangelist at Cambridge. Cambr. Ant. Soc. 1874, 8vo. He was not yet a Fellow, and it may be doubted whether any resident Fellow could have enriched us with such a record of the thirteenth century buildings. He likewise had a hand in the "Architectural History of Cambridge," by Professor Willis and J. W. Clark.

Not without a weary chase could one overtake all his fugitive articles; see meanwhile the *Catalogue of Scientific Papers* (1800—1863). *Compiled and published by the Royal Society of London.* London, 1867, 4to. Vol. I pp. 136—139, one hundred and six numbers.[23] Vol VII 1877 (1864—1873), p. 62, twenty-two.[24] Vol IX 1891 (1874—1883), p. 91, four.

In the Catalogue of MSS. in the Cambridge University Library, edited first by C. Hardwick, then by H. R. Luard, Cardale Babington undertook the heraldic and monastic cartularies; but lack of mediaeval scholarship made this the least successful of his works. After the third volume he made way for George Williams and Thomas Bendyshe.

Two only now (1895) remain (Sir H. E. L. Dryden and James Heywood) of the builders of the Cambr. Ant. Soc. (March 1840). In March 1843, Babington was chosen Treasurer, and long held the Society together. Many and many a meeting I have attended, from 1853 onwards, in which Geo. E. Corrie, George Williams, C. H. Cooper, H. R. Luard, Churchill and Cardale Babington, F. J. A. Hort, Henry Bradshaw, W. G. Searle, Thomas Brocklebank, John Rigg, T. G. Bonney, E. Ventris, or some of them, stood for the whole body. Papers of sterling worth were read at these small musters, and treasure

trove discussed. But for Babington, I make bold to assert, the Society would never have formed a Museum, and must, in all likelihood, have crumbled to pieces. Now that through the zeal of S. S. Lewis[25] our numbers are large, we should recover and carry out the platform of a "Cambridge Historical Society," which proposed all that the Oxford Historical Society is doing, but fell stillborn, blasted by chilling frowns, somewhere in the fifties.

In the Report presented to the Society at its fifty-fifth Annual Meeting, May 29, 1895, we read (he also—I am glad to add—was able to read before his last seizure)—

> The long services of Charles Cardale Babington, M.A., F.R.S., F.S.A., Professor of Botany, one of the founders of the Society, and for many years its most active supporter, appear to the Council to demand some special recognition. In accordance with the Laws, Professor Babington's term of office as Vice-President terminates to-day. The Council propose therefore that he be asked to accept the permanent post of Honorary Vice-President of the Society.

He had the rare gift, ripened by use, of bringing to light buried talents, and would spare no pains in clearing for them a fair field. In the year 1854 he beckoned Mr. Robert Cooper Ready,[26] then struggling for a living at Lowestoft, to Cambridge. I took him to our treasury, when in quest of college seals. Ready has since, at the British Museum, with the aid of his sons, outstript the boldest forecast, charming into shapes of bygone life beaten bronze—the Balawât gate ornaments—from Babylon, to lay eyes warped past hope in the devouring fire.

Babington's assistant, Thomas Hughes Corry[27] (1st cl. Nat. Sc. 1882, drowned 9 Aug. 1883), revered in him a father. So too Jani Alli, the Mohammedan missionary to the Crescent (C.C., B.A. 1877, M.A. 1883), looked to Brookside as his home. After Alli's death (15 Oct. 1894)[28] his Bible, Prayer-book, and gold watch were sent back to those who would cherish them more than any one on earth. Wherever Babington went, he fell in with homebred votaries of Nature who could give and take. So in Connemara with "Mac Calla."

His name for active kindness threw countless chances in his way. This year (1895) a voice of gratitude reached him from a freeholder in Manitoba. A boy, beaten and starved by a

drunken father, had been brought to Brookside, sent for four or five years to the Industrial School, on Boning's death placed for a year with Dr. Barnardo, and then on a Canadian farm. The made man fosters a sense of pious duty to the maker of his fortunes.

To many charities Babington's drawing-room supplied the fulcrum to move the world's pity. The London City Mission, Dr. Barnardo's Homes, Irish Church Missions, Church of England Zenana Mission, Bishop Cabrera, Count Campello (Bishop-elect of the Italian Reform), the China Mission, can all tell of the breadth and warmth of his sympathy. When, some ten years back, the Cambridge Seven went out to China, they turned a deaf ear to all denial; he and no other must take the chair. The large room in the Guildhall was crowded to the doors, and 600 undergraduates sat on the platform. What he has done for Cambridge will never be known. As a friend of Sir Arthur Blackwood's he turned his thoughts to our neglected benefactors the postmen and telegraph boys. At a hint from him they formed a Missionary Society among themselves, and so learnt the blessing and dignity of giving. More than twenty-five years ago he settled here a Cottage Orphan Home, and feasted our choristers after the foundation-stone had been laid by Mrs. Harold Browne. St. Barnabas', St. Philip's, and other Cambridge churches owe much to his coy bounty.

To brave hearts called to die in the mission field he was a Gaius, nor did he, as the blind "common-sense" of clubs and smoking-rooms is now doing, grudge them the supreme crown of martyrdom; even women, he held, could not spend their lives to better purpose.[29] Henry Perrott Parker (B.A. of Trinity 1875, M.A. 1878), lighting upon Jani Alli in Babington's house, caught there the hallowed fire, laboured for some years in India, with a heavy heart consented to succeed Bishop Hannington, and died in Africa 26 March 1888. He had been Superintendent of the St. Barnabas' Sunday School.

Mr. and Mrs. Stewart, Miss Stewart, Miss Hessie Newcombe —martyrs whom the world of fashion mocks or condemns—and the enlightened convert Mrs. Ahôk, were all familiar faces

round Babington's fireside. Many a bud of spiritual life, nipt by frosts of cynic scorn without, burst into full bloom in that sunny atmosphere.

"Cardale Babington is common sense in flesh and blood; a Nathanael without guile." Such is the likeness caught to the life by one long near to him, John Couch Adams; and the painter himself might have sat for the portrait.

Sir Thomas Wade, hearing that Babington bemoaned his enforced absence from a lecture, delivered in the Lent term (1895) in King's Hall, and had read the report with great relish, came to sit an hour with him, repeating the pith of what he had said. As the two veterans were so soon to be united in death,[30] this last meeting will long haunt the mourners' memory.

Two or three shreds from a favorite poet will divulge to by-standers something of the image of his character and principles left upon those who knew him from the inside, *intus et in cute.*

> But here was ne'er a Complement, not one
> Spruce, supple cringe, or study'd looke put on.
> All was plaine, modest truth.
> HENRY VAUGHAN'S *Sacred Poems* (1847) p. 19.

> Walk with thy fellow-creatures; note the *hush*
> And *whispers* amongst *them.* There's not a *Spring,*
> Or *Leafe* but hath his *Morning-hymn.* Each *Bush*
> And *Oak* doth know *I AM.* Can'st thou not sing?
> O leave thy cares, and follies! go this way;
> And thou art sure to prosper all the day.—*ibid.* p. 56.

> Teach both mine eyes and feet to move
> Within those bounds set by Thy love;
> Grant I may soft and lowly be,
> And minde those things I cannot see.
> * * * * *
> Above all, make me love the poor,
> Those burthens to the rich man's door;
> Let me admire those, and be kinde
> To low estates and a low minde.
> If the world offers to me aught*
> That by Thy book must not be sought,
> Or, though it should be lawful, may
> Prove not expedient for Thy way,
> To shun that peril let Thy grace
> Prevail with me to shun the place.
> Let me be wise to please Thee still,
> And let men call me what they will.—*ibid.* pp. 168, 169.

* So read for *nought*, as it stands in the book.

Surely, no man of books—and such he was—ever less 'favoured' a bookworm. 'I am a man, and count nothing human strange to me' would win applause from him, as the words in Terence did from the gallery of Augustine's day. Whether or no he had read the noble *Anti-gnosticus* of R. C. Trench, I cannot say, but it spoke his inmost thoughts:—

> For I was thankful now, and not alone
> That I had been brought under the blue sky,
> With winds of heaven to blow upon my cheeks,
> And flowers of earth to smile about my feet,
> And birds of air to sing within my ears—
> Though that were something, something to exchange
> Continuous study in a lonely room
> For the sweet face of nature, sights and sounds
> Of earth and air, restoring influences
> Of power to cheer; yet not for this alone,
> Nor for this chiefly; but that thus I was
> Compelled, as by a gentle violence,
> Not in the pages of dead books alone,
> Nor merely in the fair page nature shews,
> But in the living page of human life,
> To look and learn—not merely left to spin
> Fine webs and woofs around me like the worm,
> Till in my own coil I had hid myself,
> And quite shut out the light of common day,
> And common air by which men breathe and live.

Like Samuel Johnson and Legh Richmond, he regarded Iona with peculiar reverence. In its ruins he hailed a rampart against Vatican pride, a keepsake from the days when Ireland (the last Western church,—if I may steal a shaft from Lord Plunket's quiver,—to bow the neck to Rome) was indeed the Mother of Saints. Nor did he despair of the return of the Green Isle to that high estate.

One who knew him well, Dr. H. C. G. Moule, has darted (*Record*, 9 Aug. 1895) some glances into his friend's inner life. Of the three mottos there printed Bishop Hacket's 'Serve God, and be cheerful' (Johnson's 'Serviendum et laetandum'), inspired by the *Iubilate* and by Ps. ii 11, bespeaks the spirit which bound Babington's days, from infancy to hoary hairs, 'each to each in natural piety.' Even when consciousness had well-nigh fled, he breathed a faint 'yes,' when in the hymn 'I heard the voice of Jesus say,' (one of those sung in chapel at his funeral), he caught the words 'And He has made me glad.'

His herbarium and the bulk of his technical library (some 1600 volumes), kept in the Museum during his life, are bequeathed to the University. Overtures for purchase of the books had come from Germany.

He had already given much and widely, *e.g.* to St. John's, copies of his own books in 1885, and the entire series of *Notes and Queries*; to other public libraries, the transactions of various societies to which he belonged. His loss in these respects, as in others, will long be felt.

Pedigree and Cardinal Dates.

Thomas Babington, of Rothley Temple, born 26 May 1715, died 20 June 1776, married 9 January 1758, at Wanlip, Lydia, daughter of Joseph Cardale (Vicar of Hinkley, died 20 June 1752, aet. 73, of Magd. Coll., Oxford, B.A. 24 March 1706—7, M.A. Queens' Coll., Cambr. 1725), and sister of Joseph Cardale (Fellow of St. John's, B.A. 1734—5, M.A. 1738, B.D. 1746, Rector of Houghton Conquest 1766, died 2 June 1786). She died 4 May 1791. He was Sheriff of Leicestershire in 1750.

They had issue, among other children, four Johnians. Thomas (born 18 December 1758, died 21 November 1837), Sheriff of Leicestershire and M.P., B.A. 1779. Matthew (born 24 June 1761, died at Lisbon, 6 May 1796), B.A. 1782, M.A. 1785, Fellow of the College, Vicar of Rothley 1787. William (born 11 March 1763), B.A. 1786, Rector of Cossington 1787. Joseph (born 2 January 1768, died 16 December 1826), B.A. 1791, M.A. 1794, M.B. Oxon. 1795. He married Catherine, daughter of John Whitter, of Bradninch, Devon, who died 18 November 1832.

Matthew's eldest son, Matthew Drake (born 11 July 1788, died at Messina in July 1851) was at Trinity, B.A. 1812, M.A. 1816, Incumbent of Shepeshed, Leicestershire. He married, 7 June 1820, Hannah, daughter of Benjamin Fleetwood Churchill, of Northampton, who died 5 December 1873, and was buried at Cockfield. Their only child was Churchill, the late Disney Professor (born 11 March 1821, died 12 January 1889, B.A. 1843, M.A. 1846, B.D. 1853, D.D. 1879), who

married 28 January 1869, Maud (daughter of Col. John Alexander Wilson, R.A.), who is still living, and married again, 17 Sept. 1896, Col. W. H. Wright, R.A. Churchill was buried at Cockfield, and is commemorated by a brass in the College Chapel.

Churchill's great uncle, Joseph, had two sons, Charles Cardale (born at Ludlow, 23 November 1808, died at 5, Brookside, Cambridge, 22 July 1895, at 4.45 a.m., buried 26 July in Cherry Hinton churchyard), and Frederick John (born at Ludlow 20 February 1810, died same year). Cardale (as he was always called, to distinguish him from his cousin) took his B.A. 1830, M.A. 1833. He was elected, without opposition, Professor of Botany in succession to J. S. Henslow, on 12 June 1861.[31] On the 3 April 1866, he married at Walcot Church, Bath, Anna Maria, eldest daughter of the late John Walker, Esq., of the Civil Service, Madras. He was admitted Fellow of St. John's, under the new statutes, 1 November 1882.

While they here sojourned, their presence drew us
By the sweetness of their human love;
Day by day good thoughts of them renew us,
Like fresh tidings from the world above;

Coming, like the stars at gloamin' glinting
Through the western clouds, when loud winds cease,
Silently of that calm country hinting,
Where they with the angels are at peace.

* * * *

Yea, Amen! O changeless One, Thou only
Art life's guide and spiritual goal,
Thou the Light across the dark vale lonely,
Thou the eternal haven of the soul!

J. C. Shairp, "Memories."

John E. B. Mayor.

NOTES ON MEMOIR.

Perstat in incepto.—Ovid.
My love for Nature is as old as I.—Tennyson.
Chi va piano, va sano; e chi va sano, va lontano.—Prov.

[1] From the *Eagle*, Michaelmas Term, 1895. A still career, all of one piece, has few landmarks. Cardinal dates however may be of service. Born at Ludlow, 23rd November 1808; came to the University, October 1826; B.A. 1830; M.A. 1833;

Professor of Botany, 12th June 1861; married at Bath, 3rd April 1866; Fellow of St. John's, 1st November 1882; died at 5, Brookside, 22nd July 1895; funeral service in the College Chapel and at Cherry Hinton, 26th July. Cherry Hinton, which he often searched with foreign botanists, is a fit resting-place for his remains. The grave, to the north east of the Church, lies under the shade of three noble elms. As he loved the ancient crosses of Ireland, relics of a day when her Church was still free and a far-seen beacon of the Faith, a stately Irish cross, of grey Kemnay (Aberdeen) granite, arrests the visitor's eye. The inscription is

SACRED
TO THE DEAR MEMORY OF
CHARLES CARDALE BABINGTON, M.A.
FELLOW OF ST. JOHN'S COLLEGE
AND PROFESSOR OF BOTANY IN THE UNIVERSITY OF CAMBRIDGE.
BORN NOVEMBER 23 1808; FELL ASLEEP JULY 22 1895.

"Thou hast made him most blessed for ever."—Ps. xxi 6.

In the College Chapel, on the right side of the screen as you enter, is a brass bearing the inscription

IN LOVING MEMORY OF
CHARLES CARDALE BABINGTON
B.A. 1830, M.A. 1833.
PROFESSOR OF BOTANY, 12 JUNE 1861.
FELLOW OF ST. JOHN'S COLLEGE, 1 NOV. 1882.
BORN AT LUDLOW, 23 NOV. 1808.
DIED AT CAMBRIDGE, 22 JULY 1895.

"Mark the perfect man, and behold the upright: for the end of that man is peace." Ps. xxxvii 37.

The brass to his cousin Churchill is on the left side, just opposite. In the College Hall hangs a portrait, an excellent likeness, by Mr. William Vizard of Brighton, the gift of Mrs. Babington.

[2] This Mentor, handsomely bound in calf and religiously guarded, is of the 15th ed., Lond. 1824. See *Journal* p. 3, 27 May 1826. Harford, *Reminiscences of Wilberforce*, 47, 103—110 (long in vogue, in several versions. Madame de Staël, after drawing a copy from the author by a broad hint, dubbed it *l'aurore de l'immortalité*).

[3] The subscription list is given in the *Cambr. Calendar* for 1836; see also Sedgwick's *Life* I 440, 1.

[4] Cardale communicated to the *Eagle* memoirs of H. Cory Cory (*prius* H. C. Eadie, d. 9 Jan. 1887) and of his cousin Churchill.

[5] Leonard Blomefield (formerly Jenyns) *Chapters in my Life* (Bath, 1889) 31, 32: "I have never been abroad, ... many of those who are in the habit of going abroad simply following the fashion, and remaining through life more or less ignorant of their own country."

[6] In his first visit to Ireland in 1835 (*Mag. Nat. Hist.* IX 119—130) he was accompanied by Robert Maulkin Lingwood (B.A. 1836, M.A. 1840) and John Ball, both of Christ's (Mr. Britten).

[7] See preface to *Manual*, first edition.

[8] Three papers by Babington on the Ray Club, dated 11 March 1857, 14 Dec. 1868, and 29 November 1887, contain earnest addresses to his mates; the first and third give a list of members and associates, with an outline of their lot in life; the second and third, lamenting the decay of zeal, fan amain the lukewarm embers, if it might be, into a blaze. Sedgwick's *Life*, II 447, 19 May 1869: "In the evening the Ray Club will assemble in my rooms. It is a melancholy thought that this will be my last Club meeting, for the infirmities of old age compel me to resign my place."

Life of J. Clerk Maxwell (1884), p. 155 (1855): "Went with Hort and Elphinstone to the Ray Club, which met in Kingsley of Sidney's rooms. Kingsley is great in photography and microscopes, and shewed photographs of infusoria, very beautiful, also live plants and animals, with oxy-hydrogen microscope."

Ibid. p. 168, 14 February 1856: "Yesterday the Ray Club met at Hort's. I took my great top there, and spun it with coloured discs attached to it."

Ibid. p. 294: "But if there is sufficient liveliness and leisure among persons interested in experiments to maintain a series of stated meetings, to shew experiments, and talk about them as some of the Ray Club do here, then I wish them all joy."

[9] *Dytiscidae Darwinianae*, in "Trans. Entom. Soc.," III 1841. His first entomological papers (relating to Cambridgeshire) were published in 1829, before he took his degree, in "Magazine of Natural History," I II. None occur after 1844. Lists in Hagen, "Bibliotheca Entomologica," I (1862), 22, 23.—(Information from Dr. David Sharp).

[10] Thomas Arthur P., of Em. B.A. 1856, M.A. 1859. In holy orders. Author of "The flowering plants of Wilts, with sketches of the physical geography and climate of the county. 1888." 8vo.

[11] Selections from the Correspondence of Dr. George Johnston, Author of "A Flora of Berwick-on-Tweed." . . . . Edited by James Hardy LL.D. . . . . Edinb. 1892. 8vo.

[12] Founded by Prof. John Hutton Balfour, 17 March 1836; he died 11 Febr. 1884 (memoir in *Hist. of the Berwicksh. Naturalists' Club*, xi 218—226).

[13] In his library is a book now rare: "The Natural History of Dee Side and Braemar. By the late William Macgillivray LL.D. . . . . Edited by Edwin Lankester, M.D. F.R.S. London: Printed for private circulation, 1855." The manuscript was bought by the Queen. When Prince Albert was President of the Association, the Presidents of sections (Babington among them) were invited to Balmoral, and received copies: "This work, printed by command of the Queen, is presented to Mr. C. C. Babington by H.R.H. Prince Albert." Editor's Preface, p. v: "The list of plants have . . . been submitted to . . . Mr C. C. Babington, of Cambridge."

[14] Richard Owen's *Life* I 288.

[15] Leslie Stephen, *Life of Henry Fawcett*, 99: "He had been present at the smart passage of arms (in 1860) between Professor Huxley and Bishop Wilberforce at the British Association meeting in Oxford." Lord Monboddo's ape had startled the Bishop, a beast then strange and skittish, but now, thanks to Huxley and his brother-showman Ernst Häckel, tame (save with the hardened recusant Rudolf

Virchow) and domestic. Disraeli's quip 'I am on the side of the angels,' speedily cleared the air. For 'wit of one' was faithful mouthpiece to 'wisdom of many.' A motley throng, three parts idlers, one part specialists, might question till doomsday of life and death, final causes and free will, and find itself 'in wandering mazes lost.' *Solventur risu tabulae.* All breathed more freely when discharged from a panel beyond their scope. The most enduring trophy of the fray is Dr. Kennedy's sprightly epigram on the Ennian text: SIMIA QVAM SIMILIS TVRPISSIMA BESTIA NOBIS.

[16] Now known as *Elodea Canadensis*, described in his "Manual," 8th ed., p. 339, as *Anacharis Alsinastrum*. Belongs to the family of *Hydrocharidaceae Hydrilleae*. Indigenous in North America, from Canada to the Southern States; observed 3 Aug. 1842 by Dr. George Johnston, in the Lake of Dunse Castle, Berwickshire; in North Germany it wrought mischief to navigation and water-mills and netting in the Spree, and other rivers. It has proved perhaps less baneful than was feared by those who called it a 'Vegetable Hydra,' 'waterpest'; having disappeared from many waters which it once infested. Where plentiful, it serves as manure, as food for waterfowl, harbours the spawn of fish, and disinfects the streams (Pierer's *Conversations-Lexikon*, 6th ed. 1876, s. v. *Elodea*. Meyer's *Conversations-Lexikon*, 3rd ed. 1874, s. v. *Anacharis Alsinastrum*). Babington himself wrote a paper on *Anacharis Alsinastrum* (*Edinb. Bot. Trans.* III, 1850, 27—34; *Ann. Nat. Hist.* I, 1848, 81—88; *Ann. Sci. Nat.* XI, Bot., 1849, 66—82). See especially Sowerby's *English Botany*, IX[3] (1869) 81—85. Compare the giant growth of water-cress in New Zealand. Zoology tells like tales of acclimatisation and its perils: sparrows in the United States, rabbits in Australia.

[17] Babington's lay sermon to the Ray Club, 29 Nov. 1887, p. 4: "But there is another point in which we necessarily differ greatly from our state in former times. Then the Natural History part of Natural Science was pursued with great earnestness and activity by some of our Members and many of the young men in the University: now it is rare to find an Undergraduate or B.A. who knows, or cares to know, one plant from another, or distinguish insects scientifically. I am one of those who consider this to be a sad state of things. I know that much of what is called Botany is admirably taught among us; but it is not what is usually known as Botany outside the Universities, and does not lead to a practical knowledge of even the most common plants. It is really Vegetable Physiology, and ought to be so called. It is a very important subject, but does not convey a knowledge of plants. A similar distinction should be made in Botany as is done in Zoology." See also the preface to his *Manual*, ed. 5.

[18] See Leon. Blomefield (Jenyns) "Sketch of the Flora of Bath, 1864," in "Wright's Historical Guide Book to Bath," pp. 401—415. "The Bath Flora. Lecture delivered to the Members of the Bath Field Club, Dec. 5 1866." 8vo, pp. 39.

[19] Died 18 March 1887, Seaton Avenue, Mutley, Plymouth, aet. 85. Mark the age, a twelvemonth short of Berkeley's and Babington's span.

[20] See *Linn. Soc. Proc.* 1885—6, p. 146: "Babington's Manual is now (1886) in the eighth edition, and the influence of the successive editions on field-botany can hardly be measured." Mr. James Britten, *Journ. Bot.*, Sept. 1895: "Of this work it is not too much to say that it revolutionized the study of British plants and gave an impetus to thought and work among British botanists to a degree unequalled by any publication of the century."

[21] Extracted from the *Annals and Magazine of Natural History*, Vol. XVIII, and transactions of the Edinburgh Botanical Society, Vol. II.

[22] See the Index to Prof. Sedgwick's *Life*, by J. W. Clark. There is a life of Salter by Huxley (*Quarterly Journ. Geol. Soc.*, XXVI, pp. xxxvi—xxxix). Sedgwick also coveted Salter as artist for his British Palaeozoic Rocks and Fossils, but the scheme fell through (*Life*, II 304); "his work was irregular and interrupted by long absences" (*ibid.* 467).

[23] No. 20, A notice, with the results, of a botanical expedition to Guernsey and Jersey, in July and August 1837. No. 58, List of plants gathered during a short visit to Iceland in 1846.

[24] No. 19, A revision of the Flora of Iceland [1870]. *Linn. Soc. Journ. Bot.*, XI, 1871, pp. 282—348.

[25] See his *Life* (Cambr. 1892) ch. 8, pp. 117—122. After his death, Babington said (p. 121): "He had himself personally known the Society from its foundation; had seen its early prosperity; then its decline when its founders and early friends left Cambridge; then the long period of its obscurity when it was difficult to keep it in existence; and then the happy return of prosperity, resulting in a great degree from Mr. Lewis's acceptance of the office of Secretary." W. M. Fawcett added (p. 122): "When he began, he (Mr. Fawcett) did not think there were more than thirty members, and, chiefly through Mr. Lewis's exertions, the number was now raised to about 300." The real increase was greater (p. 117), from eighteen members in 1873 to 320 in 1890.

[26] His father had a nursery garden at Cambridge, near to the present station. His uncle, the late Thomas Ready, was gardener of Christ's. R. C. Ready has been attached to the British Museum since 1860, and still (1895) goes down to it, though he completed his eighty-fourth year in June 1895. In the same season that he worked in my tower in the second court, striking moulds of seals from charters which we carried down, drawer by drawer, from the 'treasury' (the barred room over our entrance gateway), he also knocked at the doors of all college charter rooms. In return for my help, he gave me a card framed and glazed, displaying the seals most to my liking, either as works of art, or as bearing on college history. This hangs now in the College Library. "He knew the late Professor C. C. Babington very well indeed, and for a very long time." His son, William Talbot Ready, is now (1895) a dealer in antiquities, ancient coins, English medals, gems, etc., 55, Rathbone Place, W.

[27] In Babington's library hangs a speaking likeness of Mr. Corry, coloured from an enlarged photograph. This, a birthday present, and two volumes of poems, rich in promise, formed highly-prized mementos of his best-loved pupil. See *A Flora of the North-East of Ireland, including the Phanerogamia, the Cryptogamia, Vascularia, and the Musciniae.* By Samuel Alexander Stewart . . . and the late Thomas Hughes Corry, M.A., F.L.S., F.Z.S., M.R.I.A., F.B.S. Edin., Lecturer on Botany in the University Medical Science Schools, Cambridge; Assistant Curator of the University Herbarium, etc., etc. Published by the Belfast Naturalists' Field Club. Cambridge: Macmillan & Bowes 1888, cr. 8vo, pp. xxxvi, 331. In the preface is some notice of Corry. P. viii: "Professor Babington, F.R.S., has from time to time

examined the *Rubi*, and given his opinion on the specimens submitted." See Babington in *Journ. Bot.* 1883, 313. Unknown to *D.N.B.*

[28] See *Record* newspaper, 26 Oct. and 16 Nov. 1894 (pp. 1055, 1136*a*). *Church Missionary Intelligencer*, Jan. 1895, article by Phil. Ireland Jones. Portrait and memoir in *Church Missionary Gleaner*, March 1895, p. 44.

[29] Mrs. Saunders, of Melbourne, "spoke of the honour the Lord had put upon her in permitting her to see two of her children crowned with the martyr's crown. . . . . She wants to go to China as soon as she can, and see a martyrs' memorial at Ku-Cheng built of precious living stones, some of them the murderers and their children" (*Church Missionary Gleaner*, Oct. 1895, p. 146*a*). She has since gone. Miss Codrington, who alone escaped death of the devoted band, has, after recovering from her wounds, rejoined the Mission; and the old saying, "The blood of Christians is a seed," is once more proved true, for converts are more numerous than ever.

[30] Sir T. F. Wade, of King's College, Professor of Chinese, died 31 July 1895, and was buried (like Cardale Babington) at Cherry Hinton 5 Aug.

[31] His application, a model of modesty, dated 24 May, is preserved in his journal. Two Johnians, his cousin Churchill and Leonard Jenyns (afterwards Blomefield), would have done honour to the chair. His friend, M. J. Berkeley, was certainly named at the time. But the man who had watched each plant and tree from the first, Henslow's squire in thirty campaigns and upwards, was allowed to walk over the course.

Addendum, insert in p. xxx l. 5 (after *elms*). 'Ev'n from the tomb the voice of Nature cries.' No marble slab, flat and unwieldy, encumbers his bones, but Earth, as in the old-world blessing, sinks light upon them, turf around growing green at will, flowers gleaming on the mould, birds warbling overhead, winds, showers and sunshine in full play. It is a haunt of Peace, emblem of a gentle life, of a guide who, like Eastern and Grecian sages, set up his school by babbling brook or still tarn, in hidden glen or on open mountain side.

REMINISCENCES.

Yet nature's charms, the hills and woods,
The sweeping vales and foaming floods,
Are free alike to all.
In days when daisies deck the ground,
And blackbirds whistle clear,
With honest joy our hearts will bound
To see the coming year.

BURNS.

I By the Rev. J. A. Babington.*

The following lines from the pen of a relative who knew him intimately may be of interest to some readers.

It is always difficult to give strangers a true and adequate picture of a dear relative and an intimate friend; but to draw a picture of Charles Cardale Babington is a task of peculiar difficulty, for no one could have been more retiring and self-repressed, or more reluctant to obtrude his thoughts and opinions unsolicited. Indeed, his humility was perhaps the most striking feature of his beautiful character. You might have discussed Botany with him by the hour, without discovering from any words of his that he had gained a European reputation in that particular branch of science. There was nothing dogmatic in his tone, nothing overbearing in his arguments, no shade of contempt for the opinions of others less gifted, no tinge of jealousy lest his reputation should be eclipsed by the fame of rivals. It was probably this virtue which made him so patient a listener. The most ignorant and importunate questioner could not weary or annoy him; he was as ready to bring out the rich stores of his knowledge for the humblest beginner as for the ablest man of science, to explain what was obscure, to restate truths which were not apprehended, to set facts in their true relation to theories. If it be asked what was the source of this humility, I should unhesitatingly reply, his religious faith. His life was a perpetual commentary on St. Paul's words, "What hast thou that thou didst not receive? Now if thou didst receive it, why dost thou glory as if thou hadst not

* The Rev. John Albert Babington, third son of Thomas Gisborne Babington (of Trinity College, Cambridge, B.A. 1811, M.A. 1815), Esq., of Namur. The son was of New College, Oxford, B.A. and M.A. 1872. Born 13 Nov. 1843, married 29 June 1876 Emily Elizabeth, daughter of William Gardner (of Qu. Coll. Cambr. B.A. 1848, M.A. 1852), Vicar of Orpington. Mr. Babington was Assistant Master at Marlborough College 1867—75, Head Master of Lincoln Grammar School 1875—80; he has been Assistant Master at Tonbridge School since 1880.

received it?" If, as he firmly believed, the student of science was not only increasing the sum of human knowledge, but was also consecrating his powers to the service of God, what possible reason was there for petty self-glorification or for idle vanity? How could the sense of mental powers or intellectual achievements dare to fling its shadow upon the awful light which encompassed the God of Nature? Scarcely less remarkable than his humility was his sincerity. In an age of exaggerated expressions and emotional writing, it was a real lesson to listen to the conversation of one who set a watch upon his lips with jealous care; who never said a word more than he really meant; who was never betrayed into the use of superlatives for the sake of effect, and who eschewed all epithets of high-flown eulogy or extravagant depreciation. He did not need to retract opinions which he had expressed, to qualify admissions which he had made, to modify statements which he had hastily uttered. He did not, when speaking, think of the impression which he was making on his hearers. An inmate of the fabled Palace of Truth could not have been less self-conscious or more perfectly natural. This sincerity was especially conspicuous in his religious faith. Deep and intense as his convictions were, he bore them in his heart, not on his lips; he shewed them by his life, not by his words. Though he was always ready to obey the Apostle's maxim by giving a reason for the hope that was in him, he did not think it necessary to prove the sincerity of his religion by his vehemence or his persistency in asserting it. When he had occasion to give his opinion on sacred subjects, his utterances were as measured and weighty, as unaffectedly simple, as free from all taint of insincerity, as his ordinary conversation.

It may be well to point out how influential his religious example was. In the life of a University, where spiritual aims are only too often overborne by intellectual and scientific interests, a religious layman in many ways wields a greater power for good than a clergyman. If he is really earnest, he is not suspected, even by the most sceptical, of being actuated by self-interested motives or professional zeal. The reality of his spiritual life appeals even to those who are generally indifferent to religion. Such was the force of Charles Babington's example during sixty years in the University which he loved and served so well. Those who scrutinized him most closely, could detect no inconsistency in his spiritual walk and conversation. It was evident to the most careless observer that his life was built upon the One Foundation, and that the truths which he held had been proved by him to be the power of God unto salvation. The consciousness of this practical power of true religion led him to take a peculiar interest in the history of Christian missions. In his opinion they pre-eminently justified the application to the Christian church of the famous motto, 'Esse quam videri,' for there could be no unreality about a faith which gave men strength to renounce their whole past, to break the strongest ties which bind

men to the life of this present world, and to become humble and sincere followers of the crucified Galilean. The same feeling made him turn instinctively, not so much to religious books and to commentaries on the Bible, as to the constant study of God's Word, and to the ceaseless repetition of the beautiful hymns which during the course of two centuries and a half have enriched our English hymnals, and which were dear to him as the simplest and most complete expression of the Christian's deepest emotions.

It would be a mistake to suppose that Charles Babington's intellectual tastes were exclusively scientific. The fact that he devoted himself at the same time to two branches of study differing so widely as botany and archaeology, would be sufficient proof to the contrary. Indeed, his study of archaeology may be said to have widened his interests until they extended over almost the whole field of human thought and action. He was a great reader, and his reading covered a singularly wide range. In addition to books which dealt with his special lines of study, he devoured books of travel, biographies, histories, and fiction.* During his prolonged retirement after his serious illness, all Sir Walter Scott's novels were read through to him, and he delighted in their racy humour, as well as in their inimitable portraiture of every type of human character. But, as was natural, the antiquarian spirit of the great magician had a special attraction for him; and he profoundly admired the genius which clothed the dead bones of the past, and made them start to life in the crucible of a glowing imagination.

There are two more traits in his character, upon which I would fain touch in a few words before I close. The first was his deep though undemonstrative devotion to his University and College. No one could have lived more completely in the spirit of the ancient maxim, "Spartam nactus es, hanc exorna." It is scarcely an exaggeration to say, that every stone in Cambridge was dear to him. I well remember the eagerness with which, not long before his death, he sent me to inspect the recent excavations at Jesus College. A talk about University and College antiquities had a real fascination for him.

He watched with eager solicitude the wide and numerous changes in the educational course at the University, and spoke with deep thankfulness of the opportunities which had been given young men within recent years of studying fresh subjects of world-wide interest. Such subjects, he would emphatically add, had in his undergraduate days been almost a sealed book. The affection which the University as a whole called forth in him, was lavished with a peculiar tenderness upon his own College. Everything Johnian had a marked claim upon his sympathy and interest; he was jealous with a noble jealousy, for the honour, the efficiency, and the prosperity of St. John's; and it may confidently be asserted,

* This latter only of the highest kind.—Ed.

that if he had succeeded to an earldom or a dukedom, it would have given him far less pleasure than his election as Fellow of the College, with which his life for more than half a century had been identified.

The second trait of which I would speak was his unflagging industry. Up to the close of his life he could not endure an hour of idleness: waste of time, whether it took the form of aimless frivolity, or of dislike of work, provoked his gentle spirit to undisguised impatience. His own success in life, and his distinguished reputation, were largely due to his never wasting a single day. He could heartily endorse Buffon's famous definition, that genius is a long patience: and when we remember the spirit of consecration which he brought to all his work, we may truly say that he was a perpetual witness to the truth of the motto, 'Laborare est orare.'

II By H. R. Francis, Esq.*

When I wish to arrange and put into shape my recollections of Professor Babington—and the wish comes to me very frequently—though my shallow smattering of popular science places me in one sense quite beyond all hope of comprehending the range of his scientific attainments, I find myself dealing with a character which was deeply interesting in a moral point of view. I can see that there must have been essentially kindred spirits among the very foremost of our scientific men. Faraday, for instance, must have had the same divine gift of feeling all his intellectual powers as something not his own, but given him in trust, as talents for the profitable employment of which he would be held responsible on the Great Day of Account. But Professor Babington was the only man of that rare and exalted stamp with whom I could claim a certain intimacy. And I always felt that his simple sense of stewardship over all his mental stores was at once a rare and beautiful thing. He seemed to have no need for bewildering himself with nice items of debt and credit, with "the lore of nicely calculated less or more." All that he knew, all that he was, seemed to be held by him in trust, not so much from a strict calculation of duty, as from a loving instinct of usefulness, coupled with a sense of gratitude for being permitted to be an instrument of good.

So again, were I questioned as to his moral and religious views, I could not pretend to analyse or separate them. I should find myself carried back to the comprehensive simplicity of the Saviour's teaching; to the "first and great commandment," which was the mainspring of my friend's blameless life, and to "the second, like

* Son of Philip Francis, of St. John's (son of "Junius"), B.A. 1790, M.A. 1794. Henry Ralph Francis, of St. John's, B.A. 1834, M.A. 1837. Elected Foundation Fellow 6 April, admitted 7 April 1835. On the 19th March 1839 Benj. Morgan Cowie, now Dean of Exeter, succeeded to his fellowship. He became District Court Judge of Sydney, N.S.W., 28 Jan. 1848.

unto it," which claimed his free and joyful obedience. More than this can hardly be said, yet to say less would be a wrong to his memory.

FIELD-PREACHING.

The meanest floweret of the vale,
The simplest note that swells the gale,
The common sun, the air, the skies,
To him are opening Paradise.—T. Gray.

I By Professor E. B. Cowell.

[Professor Cowell kindly sends reminiscences of "walks with Babington," a frequent entry in Hort's journals, from an early date. I never had the luck to watch the Naturalist in his element. Often as we were together, it was always under cover, till towards the end, when I surprised him now and again gazing peacefully on his lair, the Botanic Garden, from a Bath-chair. Otherwise the passion for hunting plants, strong in my boyhood, must have cast its spell upon me once more, after many days.—J.E.B.M.]

Professor Babington knew every corner of Cambridgeshire from long personal examination; it was his botanical parish; and he could tell always beforehand what plants to look for in any locality at any given season. He was thus the very person to inspire a botanical enthusiasm, for his eye at once detected the objects of interest, and he knew all that they had to tell. Expeditions with him to Thetford, Chippenham, the old Roman Road, Wicken Fen, and many a similar locality, remain golden retrospects in one's life; they opened his companion's eyes to hitherto unnoticed interests in field and lane. He had learned by experience that everybody, unless he has already an absorbing pursuit of his own, is a potential botanist; it only requires an enthusiastic teacher, and the ready audience will be found everywhere.

He knew North Wales nearly as well as Cambridgeshire, and I shall never forget our many rambles in the neighbourhood of Snowdon,—one especially in Cwm glas in 1878, when we hunted out all the rare plants which hide themselves in that rocky solitude. One could have almost fancied that they were glad to attract his eye as he passed. His great interest was in the plants themselves as living organisms, and in tracing their relations to each other and their surroundings; and his enthusiasm could hardly fail to kindle an answering glow in the listener. I have often seen him interest a casual audience in a railway carriage, as he pointed out an unknown part or function in some apparently well-known flower; a furze blossom or an umbellate flower would thus gain a new significance; and these accidental hints might easily wake up a new and life-long interest in a young hearer. I have often since adapted his lessons to small audiences of my own, proud to be thus the medium to hand on the benefits of his teaching.

Aug. 15, 1895.

II By Mrs. R. B. Batty.*

You kindly say you would like to have my reminiscences of your husband, my own husband's valued friend of Cambridge days, my reminiscences especially of the meeting with you and him in lovely Connemara. I remember my joy at finding you both in the primitive inn at Clifden,—an abode which proved so delightful to me, and I think to yourselves, although the old French chevalier, our fellow-guest, would have had "plus de convenances, et beaucoup plus de complaisance!" Professor Babington's kindly nature overlooked deficiencies, accepted unsophisticated civilities, heeded not broken panes, nor the necessity to prop the windows with forks or bottles; and when you invited a party of friends, including myself, and some of the clergy and young school teachers of the place, to tea in your private room, and the teapot, weighted with tea-leaves of many days' accumulation, fell from your hand to the floor, how ready he was, after assuring himself that you were not hurt, to laugh heartily at the little *contretemps*, and its evident cause. How pleasant and enjoyable was the meal, seasoned with his gentle courtesy, and always instructive conversation, followed at his suggestion by the reading of a chapter, and singing of some hymns before we separated. Truly he was a man of science loving God, and acknowledging Him in all His works.

How charming was the drive, in which I was privileged to join, to the romantic village of Roundstone, in that ancient full-bodied coach, of the comforts or discomforts of which no heed could be taken, whilst he called attention to the wild and beautiful landscape, or the little sparking lakes with which the district abounds, explaining how those to the right were salt water, being in connexion with the Connemara Bay, with ebb and flow from the Atlantic Ocean, whilst those on the other hand are fresh water lakes, fed by numberless mountain streamlets. How his eye was ever on the alert for blossoms amidst the wide expanse of golden, fruit-scented gorse, and heaths of every tint of pink or white. Then came the hush, and our excitement, as we neared the spot where the Professor expected to find one rare and choice variety. Presently leaning out he called to the driver to stop, left the coach, and walking a few steps forward, plunged his hand into a tuft of crimson heather. He plucked out a spray of heath,—I see him now, as I saw him then, with the look of quiet satisfaction on his earnest, kindly face: "Yes, I have it," said the Professor, as

* Widow of Robert Braithwaite Batty, fellow of Emmanuel (second wrangler, B.A. 1853, M.A. 1856). He was elder son of the late Lieut.-Col. Batty, Grenadier Guards, of Ridgmount Place, Ampthill. On 24 July 1860, he married at St. James's, Piccadilly, Beatrice, eldest daughter of Hen. Stebbing, D.D., Rector of St. Mary's, Upper Thames Street (*Cambr. Indep. Press*, 28 July 1860). He died, as a missionary of the C.M.S., at the mission house, Amritzar, 22 June 1861, aet. 32 (*Cambr. Chron.*, 17 Aug. 1861 *bis*).

he stepped, happy and content, into the carriage. How eagerly we all regarded the treasure! to us it looked much like the other heaths around, but he assured us that it was not so.

Often have I told this story since, and I love to think of it now, and to remember that I was a privileged witness of the interesting incident. How delightful was the further drive that day, over the heathy hills, and down to Roundstone Bay, your husband telling of how strange plants have been floated across in the seed from the Spanish Main; and discoursing of the formation of rocks and boulders—and anon speaking of the foundation of the church and school at Moyrus, that far outlying district of the Irish Church Missions, which we were to visit from Roundstone. The nearest access from the mainland being nine miles across a rough bit of sea, the poor inhabitants had been left in a state of heathen darkness and neglect, till the Irish Church Missions took it up. How interested your husband was, in the reception of school-children, pastor, and people, on that rugged shore,—so wild and lonely and far-away, that everything appeared, as he said, almost patriarchal; the simple hospitality at the parsonage, the hymns of welcome on the beach, the little children coming to help you to pick up pink cowries and beautiful shells upon the shore. But why do I write this? All this, and more, you may so much better recount, only perhaps it may serve as the testimony of one apart from yourself, to the largeness of heart and religious earnestness of character which so enhanced the value of that life, which although a long one has proved all too short, alas, for you, and for those many friends by whom your husband was beloved, honoured, and admired.

Enthusiastic botanist as he was, he could lay aside his flowers, and give up his search for specimens, to listen to the examination of a bevy of Irish village children on the 'Hundred Texts;' he could as sincerely give his mind to the subjects brought forward at a missionary meeting, as to the matter discussed at a meeting of the Natural History Society; and some of my most delightful memories of him attach to a happy visit to your Cambridge home, when, after a breakfast at which various guests had assembled, those guests were invited by the Professor to join in family prayers before they separated. This is the touch which gives the key note to his life.

With you I truly mourn his loss,—how many must do the same! A valued friend less in the world, one more link with Heaven. God bless and comfort you with that last thought.

P.S.—His radiant, boyish delight over the scenery and flora, on that delightful drive which you took with us from Braemar to Glenshee, on one of the brightest of bright September days in 1888, I cannot forget,—nor I am sure, can you.—B. B.

LETTERS WRITTEN TO A. M. B.

From the LORD BISHOP OF DURHAM.

AUCKLAND CASTLE, BISHOP AUCKLAND,
Aug. 3, 1895.

. . . I will not weary you with many words, but I should like to assure you that Mrs. Westcott and I most truly sympathise with you in your sorrow. Cambridge has indeed suffered many and heavy losses since we left five years ago.

Your own work will give you the fullest consolation, and keep fresh the happiest memories. I have often thought of our meeting at the top of Morrone in 1888.

From the LORD BISHOP OF GLOUCESTER AND BRISTOL.

THE PALACE, GLOUCESTER,
Sept. 29, 1895.

. . . I return you my best thanks for having sent me a memorial of your very distinguished husband. I have read it with great interest, and though I well knew how earnestly your dear husband worked, I was really amazed at the long record of his successful and ceaseless industry and talent. The sample of his journal is extremely interesting. It must be a great consolation to you to see how heartily, not only his works, but his simple and high character are appreciated. . . .

From the Very Rev. the MASTER OF TRINITY COLLEGE, *Cambridge.*

July 23, 1895.

. . . . I see that the long dreaded blow has at last fallen. Pray accept the true Christian sympathy of us both. Your dear husband has long enjoyed the profound respect of Cambridge, and his pure and gracious memory will long live among us. You will have many hearts near you in these lonely hours, and your own faith and hope will not fail. . . .

Sept. 19, 1895. . . . . I cannot thank you enough for your letter, and for sending me those two most beautiful tributes to your dear husband's memory. The example he has set during these long years of all that is truth-loving, tender, and Christ-like, cannot be without its fruit, even in years to come. To yourself the change must indeed be sad, but there is a loneliness not always lonely, into which it is your privilege to enter; a loneliness full of a Heavenly Presence in which what we seem to have lost lives again, and lives even more fully.

(To Prof. Mayor.) *Oct.* 13, 1895. Thank you much for so kindly sending me your translations of those pithy and pious German words. Mrs. Babington sent me your really beautiful tribute to her excellent husband. He belonged to a noble type.

One asks oneself whether that particular mould of goodness and intellectual power is yet broken. I hope not. . . .

[Cardale Babington toward the end of his life endorsed the Vicar's appeal for a Memorial Institute in St. Barnabas', Cambridge, a parish of near 7000 souls, the second parish in Ely diocese in point of population. "From the intimate connexion," he said, "which I have had with the parish of St. Barnabas from its very foundation, I am able most cordially to support this appeal. Such a building is indeed very greatly wanted, and I hope and fully believe that the sum required will be obtained. I also heartily concur with the Vicar in his touching desire thus to commemorate my dear and lamented friends, Bishop Parker and Jani Alli, in the parish where they did much good work when undergraduates at Cambridge." After Babington's death his name was added to those of his friends. Some £1400 are required in all. The site for the Institute was given by the Master and Fellows of Gonville and Caius College, and the foundation-stone was laid by Dr. Charles Taylor, Master of St. John's College, on St. John's Day, 6 May 1897. The Master of Trinity, as reported by the *Cambridge Chronicle*, 7 May, p. 7, spoke as follows—J. E. B. M.]:

So far they might have been assisting at almost any one of those remarkable developments of Christian zeal for the purpose of Christian teaching under the very shadow of their parish church. All such works were the sign of true Christian growth, and every man in every parish ought to be thankful to be able to take part in it. But most of them, he was sure, must be aware that that particular function of theirs that day had something special and peculiar, and, he would add, pathetic, connected with it, which made it different in some respects from other functions which otherwise were similar. They were not only that day in the faith of Christ erecting a solid work which they believed to be for the good of His children, but they were also erecting a memorial to a good man, a devout Christian, a deeply loved and revered friend. There were many friends present, he doubted not, who knew even better than himself the great services which Professor Babington rendered both to the College and the University in which for so many years he held so commanding a position, but still more to the cause of Christ and His Church. Happy was that University which could count amongst its public servants one distinguished man after another who was not only recognised as an expert and an authority in his own special branch of learning, but also as a devout, an energetic, and deeply earnest Christian. It was a remarkable fact that the last two Professors of Botany held their distinguished office for no less a period than seventy years together—from 1825 to 1895, and both were members of the illustrious college, the Master of which had that day laid that foundation-stone. Each of them was a great light to many in his day. They knew that the memory of Professor Babington was one of those which neither the University, nor the Town of Cambridge, nor the Church of Christ in Cambridge, would readily allow to die. They knew how rapidly the names even of the most beloved slipped into forgetfulness, but so long as this building, which was about to be reared, remained to do its beneficent work for Christ in that parish, and so long as that stone was seen by passers-by to record the day of its foundation, so long, he ventured to say, the name of their dear friend and benefactor, Professor Babington, would be a name in Cambridge for reverence and for love.

From the Rev. the MASTER OF CLARE COLLEGE, *Cambridge.*

Oct. 2, 1895.

. . . . I beg you to accept my sincere thanks for your kindness in sending me a copy of Professor Mayor's Memoir of Professor Babington. I have read it with great interest and admiration of the character and many-sided acquirements of our late Professor. He was indeed a great power for good in Cambridge throughout an unusually long term of years, and retained to the last a power for influencing younger men which is rare in persons of advanced years. I learn a great deal from the Memoir which I did not know of his earlier years in the University, and he is quite one of those of whom the more we know, the more we regret their loss. . . .

From the Rev. the MASTER OF ST. CATHARINE'S COLLEGE, *Cambridge.*

July 23, 1895.

. . . Your dear husband has gone down to the grave "as a shock of corn cometh in his season," beloved, honoured, and esteemed above all who have left us in Cambridge in recent years. If one point in his character struck me more than another it was his spirit of benevolence and Christian charity—the charity that thinketh no evil; that hopeth all things—that would embrace all men. It must be some help to you to know how universally he was beloved, and now how deeply he is regretted by all. I suppose my knowledge of him goes back further than most residents', for I used to meet him at our college table as Archdeacon Hardwick's guest in and after 1853. And in all those years there was no other opinion that I heard except that of respect and affection.

How much he enjoyed life to the end: those visits with you to the Yorkshire dales, will be treasured recollections of unmixed enjoyment and bright mental activity. . . . And now you will feel that with enlarged faculties of mind and heart—of intelligence and of love—he is happy for ever with his Saviour, only waiting for the meeting which knows no parting. I shall never forget the happy visits I have paid to him, and regard them as some of my happiest memories. . . .

(To Prof. Mayor.) *Nov.* 15, 1895. . . . I have just read for the second time your genial and delightful account of our dear old friend, Charles Cardale Babington, and I should like to thank you heartily for the pleasure, and more, I hope, and for the justice which it has done to the memory of one whom most of us will never forget. Of course it goes without saying that your tract surprises a reader with its wide and varied information, to which Babington's wide range of interest is in a sense a parallel. But to us its great value is, that it shews the world how wide was the reach of Babington's knowledge, and how far juster and broader were

opinions which were drawn from an extensive view of his science and of other sciences, than those which are now drawn from the knowledge which, however acute, is after all only specialistic. Such may be far more narrow, cramped, and even shallow than the older science, which surveyed an ampler field. On higher points you have left no doubt,—his breadth of sympathy with good men and good works and, as might be added, his charitable estimate of all men —I never heard a bitter or bigoted word from his lips—his joyous religion, and his life and death in Christ. Every friend of his will thank you that he passes from our sight yet not from our recollections, with such a record as yours. . . .

From the Right Rev. BISHOP SELWYN, *Master of Selwyn College.*

. . . . How sorry I am that I cannot attend the funeral of your dear husband, as I am so far away from Cambridge. I should like to have done so, both for my own sake, and because I think you would have liked to have had one of my name doing honour to your husband's memory. I shall be holding a Confirmation about the time the service begins, and hope to remember you in my prayers then. . . .

From the Rev. A. M. W. CHRISTOPHER.

ST. ALDATE'S RECTORY, OXFORD,
July 30th, 1895.

. . . . 1 *Peter* I 3—9 will cheer you in your mourning. How near the Lord's coming and the resurrection may be! Your beloved one was spared long to you, but is now present with the Lord. The tenderest cord which has tied you to this earth has been snapped, but it is still round your heart, and the broken end is in your Father's hand, drawing your heart towards Heaven. Very many friends have been, and are still praying for you. May the love of God be shed abroad in your heart by the Holy Ghost with very special power at this time. . . . May you know more and more by experience of the "unsearchable riches" in Christ. Be sure of the deep sympathy of my dear wife and myself. . . .

From Herr Baron Sir FERDINAND v. MÜLLER, F.R.S.*

MELBOURNE,
August 17th, 1895.

(To R. Irwin Lynch, Esq.) It is with deep sadness that I learn of the venerable Professor Charles C. Babington passing away from us, the Nestor of the Linnean Society for many years, the true and acute investigator of the British Flora, from whose work I have also

* Died 9 October 1896 (*Times*, 10 Oct. p. 9 col. 5).

profited for my key to the system of Victorian plants, the genial friend to so many Phytologists, including the writer of these lines. You will particularly feel his loss, as you so long particularly cooperated with this distinguished veteran. . . . . Perhaps he saw still the aged Todea-fern, which I sent to your garden, and it may have been a source of novel joy to him to have seen unfolding the numerous fronds of this ancient specimen.

(To Mrs. C. C. B.) . . . . I now express once more my high sense of appreciation of the services which he has rendered to the science of plants, not only through his admirable teachings, but also by his applying it to special research both in the study rooms and in the fields of free nature, and this unabatingly through so long a space of time, as to render him through the autumn of his life the Nestor of the Linnean Society. As the genus *Babingtonia* of our never-to-be-forgotten friend, Professor Lindley, has been transferred to the Linnean genus *Baeckea*, it is my intention to bestow that name on the first new genus which may here in Australia be discovered among plants, and which would be worthy of dedication to an illustrious savant. . . . Since the last fifty years and more, is cultivated in Britain as a summer annual, and in conservatories at all times, what may be considered the most graceful and handsome of all everlastings, the *Helipterum Rhodanthe Manglesii*. As collaterally I am identified with this charming flower, perhaps you may like to place a wreath of it occasionally on the tomb of your celebrated consort, which would signify, that also here at the Antipodes we fully recognise the important bearings of Professor Babington's discoveries and work towards biomorphic knowledge.

From NATHANIEL BRIDGES, Esq.

BLACKHEATH, S.E.,
July 23, 1895.

. . . I cherish a very warm recollection of the dear Professor's sweet Christian character, and must always feel thankful to have been from time to time in contact with it. . . . Many will miss at Braemar his well-known form, and his impressive and courteous presence, as also his well-considered words on interesting subjects, always so modestly expressed. In these bustling, hurrying days, such characters can ill be spared, but we must not lament, when we may well dwell on the peace and blessedness which is now his heritage. May you receive, dear Mrs. Babington, every consolation which He alone can bestow who gave you that which He has now taken to Himself.

Sept. 29. . . . . The papers you have sent have interested me deeply; these are among the many testimonies to the power of the dear Professor's character, upon those (of all kinds) with whom he was in contact, a power expressed by few, rather than many words, and sometimes even by those silent influences which are incapable

of definition. Underneath the surface of things, his mind would appear to have been always at work, and the pen followed, and now one can realize to the full the power that was there, reminding one of Keble's lines:

> Like the violets one by one,
> Soon as their fragrant task is done,
> Are wafted high in death.

If this were true of his character as a natural philosopher, I feel sure it was true of his character as a Christian, whose influence, without many words, was always felt by those who were in touch with him. I know it was felt by many at Braemar, who would not have sympathised with those deep and distinct principles of Divine Truth on which his mind rested, and which found expression in the life. It cannot but be useful, in this sceptical age, that men should know, by an example such as this, how the highest attainments in the studies of Nature, can be blended with and sanctified by an unswerving belief in the Divine Revelation.

From Miss MARSH.

July 24, 1895.

. . . God Himself comfort you in this deep affliction. It is indeed the uprooting of your tender heart from earth—by carrying away him who was its joy and strength—to Heaven. But oh! what rest for him, after all his sufferings, to be where "Health triumphs in immortal bloom," and resting with infinite content in the presence of his Saviour; and amidst angels and archangels, and all the company of Heaven.

Soon . . . soon you will see him coming with that glorious Saviour, to regain the garment of his soul, raised in incorruption, in glory, in power, and we shall be changed in a moment, in the twinkling of an eye, and be caught up together with our beloved saints to meet the Lord in the air, and so (together with them) to be forever with the Lord. And meanwhile the promise is yours, from the Prince of Peace, your own beloved Lord and Saviour, "I will not leave you comfortless, I will come unto you."

From the Rev. JAMES MACGREGOR, D.D.

3, ETON TERRACE, EDINBURGH,
Aug. 10, 1895.

. . . . Let me express my deep sympathy with you under the loss of your noble husband, who has gone before you to the Blessed Rest.

You were all in all to one another, and you were never dearer to one another than now. His memory is a glorious legacy: but what shall we say of the Blessed Hope? God bless and comfort you.

From Prof. G. D. Liveing, F.R.S.

Pension de Bel Oiseau,
Finshauts, Switzerland,
July 25, 1895.

. . . . I cannot let the sad announcement which I have seen to-day in Tuesday's *Times* pass without writing a line to assure you of my sympathy. Professor Babington had well passed the usual term of human life, but however well we mayh ave been prepared for the event, the separation after all comes as a shock, and to you on whom he has been for some time so much dependent, his departure will leave a great gap. I cannot help looking back to the time, more than forty years ago, when I first made his acquaintance. He was then the central figure amongst those in Cambridge who took delight in Natural History, and his simple character and keen interest in Nature were very attractive to younger men who had similar likings. He certainly did more in my time than anyone else to promote the study of Natural Science in the University, and I, who have lived through many changes, can perhaps appreciate better than most how much the cause of Natural Science owes to him. Such a one cannot pass away without our recalling how much he has done in his time. . . .

From Alfred Fryer, Esq.

Chatteris, *June* 3, 1895.

. . . . I did not like to trouble the noble Professor with my small botanical affairs more than was absolutely necessary. . . . The greater part of the valuable instruction he so kindly gave me, was on the rare occasions when I visited the Herbarium. Then I learned to love and esteem the goodness and greatness of the man, even more than I valued the teaching of the greatest living authority on British Botany. This feeling of personal regard was common to many of the botanists who consulted the Professor in their difficulties. I find traces of it constantly shewing in letters from several correspondents. A photograph of the Professor has been over my mantelpiece for some twenty years.

From Prof. Alfred Newton, F.R.S.

Magdalene College, Cambridge,
Oct. 30, 1895.

. . . . At the desire of the members of the Ray Club, meeting to-night for the first time this term, I write to express their very deep sense of the loss which the Club has sustained by the death of its oldest and last surviving original member. They feel very strongly the indebtedness of the Club to the late Professor Babington, who, until incapacitated by ill-health, had been its Secretary

from its foundation in 1838, and during the *fifty-five years* that he had held that office, he had not only maintained the efficiency of the Club, but the harmony which has always been its characteristic. I am also respectfully to offer you the sincere condolence of the Club on the grievous bereavement you have suffered, and to assure you of the sincere sympathy of its members.

Cambridge Antiquarian Society.

St. Mary's Passage, Cambridge,
Oct 22, 1895.

Dear Mrs. Babington,

At the meeting of this Society held yesterday the following Resolution was proposed by the President and carried, and I was instructed to forward to you a copy. Resolved: "That the members of the Cambridge Antiquarian Society, at this their first meeting held since the death of Professor Babington, desire to express their sympathy with Mrs. Babington, and their sense of the loss which they have sustained in the person of one who was an original member of the Society, and one of its most zealous and most distinguished workers."

Believe me to be, dear Mrs. Babington,
Yours faithfully,
T. D. ATKINSON,
Hon. Sec., Camb. Antiq. Soc.

Cambridge Philosophical Society.

Oct. 27, 1895.

Dear Mrs. Babington,

We desire on behalf of the Philosophical Society to forward the following Resolution which was passed at our meeting to-day (the first meeting of the Society since the death of Professor Babington): "That this meeting desires to place on record its sense of the loss the Society has sustained by the death of Professor Babington, and to convey to Mrs. Babington the expression of their sympathy and condolence in her bereavement."

The resolution was proposed by Professor Liveing, seconded by Professor Hughes, and carried unanimously.

We are, with deep sympathy,
Yours very sincerely,
J. J. THOMSON, *President.*
H. F. NEWALL, *Secretary.*

Extract from the Thirtieth Annual Report of the Museums and Lecture Rooms Syndicate for 1895.

THE MUSEUMS, *May* 12, 1896.

Since the last Annual Report was published, the University has had to deplore the loss of the venerable Professor Babington, who had occupied the Chair of Botany for thirty-four years. Though for some time past he had been unable to take any active part in the administration of the Museums, the Syndicate cannot forget that throughout the tedious controversy which preceded the commencement of the New Museums in 1863, he steadily maintained the necessity for erecting such a structure without further delay, and that his personal influence contributed in no small degree to the result. Moreover, during his long tenure of the Professorship, he did all in his power to increase the collections under his charge, and to promote the study of physiological as well as systematic Botany. His munificent bequest of his Herbarium and Library was announced to the Senate at the beginning of the last Michaelmas Term (*Reporter*, p. 23), and gratefully accepted by them (Graces 24 October, 5 December 1895, *Reporter*, pp. 171, 305). The value of these bequests is recorded in detail in the Report of his successor. The Syndicate have further the pleasure of stating that Mrs. Babington has presented to the University a photograph (life size) of her late husband. This has been hung in the Syndicate Room.

Report of Professor Marshall Ward.

The death of Professor Babington has deprived the Herbarium of a Curator, who for many years had devoted himself unremittingly to its welfare. The Department of Botany has lost in him a friend, who though prevented by failing health during recent years from taking an active share in its work, retained to the last his interest in those parts of the science which he had made his own. His munificent bequest to the University has enriched the Department by a most valuable collection of over 1600 volumes, and nearly 50,000 sheets of mounted specimens.

From EDGAR STIRLING COBBOLD, Esq.

CARADOC AND SEVERN VALLEY FIELD CLUB, SHROPSHIRE.

July 23, 1895.

It was with great regret that I received the news of yesterday. I had never had the pleasure of meeting Professor Babington, but his life is one which excites my admiration and regard, and I feel that we and all like clubs have lost a true friend. There is too much dilletante-ism in our clubs now-a-days, a fact which he saw and deplored. Let me assure you that you have not only my sincere sympathy in your loss, but that also of our members, and

specially of those that knew him. For him, a quiet child-like learner from his two Books of Revelation, I cannot help feeling that he has even now perhaps opened a third, and a far wider and deeper volume than those that he had here. . . .

Extract of Sermon preached in St. John's College Chapel, Cambridge, by the Rev. C. TAYLOR, D.D., *Master, on Sunday, Oct.* 13, 1895.

Charles Cardale Babington, Professorial Fellow of the College; since June 12, 1861, Professor of Botany in the University; died full of years on the 22nd of July last; born in Nov. 1808. At the time of his death he was the oldest resident member of the University. He had joined heartily in wise endeavours to widen the studies of the place, and make Cambridge what it is to-day. In his prime he was (as it has been said) "the central figure among those in Cambridge who took delight in Natural History."

Rooted and grounded in faith as he was devoted to Science, at the end of many years of patient continuance in well-doing, he passed to his rest at length, known and honoured as Botanist, Archaeologist, Christian, and Philanthropist, in Europe, America, India, China, and Japan: his whole life one bright manifestation of a three-fold ardent love, "the love of Man, of Nature, and of God." "Let me die the death of the righteous, and let my last end be like his."

IN MEMORIAM.

BY PROFESSOR MAYOR.

(*From the "Cambridge Chronicle," August* 30*th* 1895, *revised.*)

His careless scorn of gold his deeds bewray'd:
And this he crav'd,—no longer for to live
Than he had power and mind and will to give.

THOMAS GREENE.

Still unbroken
Age to age lasts on that goodly line,
Whose pure lives are, more than all words spoken,
Earth's best witness to the life divine.

J. C. SHAIRP.

One, who wore 'the white flower of a blameless life' in the face of Cambridge for three score years and nine, must not pass from sight 'unwept, unhonoured,' even if Cam's reeds are vocal no more, and he must perforce abide 'unsung.'

From 1853 to 1866 I met Babington well-nigh daily during term. In Hall, at the 'Bursar's (W. H. Bateson's) table,' sat, among others of the reforming 'Caucus,' the two Babingtons, Overton, Adams, Todhunter, Bashforth, Liveing; many have gone, but all saw plans, there first broached, take shape and ripen into

act. We also formed, the two cousins and I, a large part by count of the Antiquarian Society, as represented in session—often the half, seldom less than a third. As with Todhunter and Charles Henry Cooper, so with Cardale Babington; I knew him well, and yet, save for the weekly 'wine' of the Junior Book Club, I doubt whether he ever ate or drank in my rooms or I in his. His devotion to Natural History and Antiquities, to the past, present and future of Education, lay on the surface; but the higher life, which, as I now know, he had embraced from a child, was 'hidden.' William Wilberforce, Charles Simeon, and their peers, had indeed moulded his thoughts and will; but his messmates never pierced the secret. Talkative, son of one Say-well of Prating Row, must have felt ill at ease in the Cambridge of those days.

Ransack his library; ask his aims from 'the dead alive and busy' there. You will find in the Museum—for the bulk of his botanical books, with his entire Herbarium,* both now bequeathed to the University, have long dwelt there for public use, he claiming his share as one of the public—more than 1600 volumes. Some journals of associations he lodged on public shelves, number by number, as they came. In his study still nestles something of Botany and Zoology, far more of Archaeology. English, Irish, Scotch, Welsh societies, national or local,—he seems to have been parcel of all, to have worked for all. E. A. Freeman, Basil Jones, G. T. Clark, Henry Bradshaw, Irish Crosses and Round Towers, Minsters and Roman Roads, Roman Bath for auld lang syne, pottery and coins, were fish welcome to his net as Hooker, Berkeley, De Candolle, mosses and brambles, moths and beetles. Humboldt's "Kosmos" and Gilbert White's "Selborne," Lives of Adam Sedgwick, J. S. Henslow, Edward Forbes, the Voyage of the *Beagle*, tell of labours which prompted and guided his. History was his pastime; whilst feeling safer with his friend Freeman, he still would not blush to be caught with Froude's "Armada" or "Erasmus." The quarterly of his choice was "The English Historical Review." At home in every nook of the British, including the Channel, Isles,†—for he paced them, north and south, east and west, chasing flowers and insects, works of stone age or of bronze, of Celt or Roman, Saxon or Norman; he was scarcely less at home, by others' eyes all the world over—eyes of Franklin or Cameron, Nordenskjöld, Curzon, Huc, Palgrave, Tristram. He was no stranger to Milman's "History of the Jews," Stanley's "Sinai and Palestine."

For indeed he loved to link Nature with Mind, wherever he strayed. Scott's poetry or novels, Wordsworth's verse, were his guides through scenes which they paint; at Dunblane he went on

* The University can now shew 400,000 specimens. The collection to which he succeeded would long ago have perished, had he not 'poisoned' the sprigs.

† Once only, in 1846, did he stray where the Queen's writ does not run,—to Iceland. Else he was home-sick as Socrates, though citizen, it is true, of a larger state.

pilgrimage to Archbishop Leighton's library. Nor did man's lower works content him. 'Affection dwells in black and white the same.' Not Cowper only, but Henry Martyn, Selwyn, Patteson, Mackenzie, Mackay of Uganda, William Ellis of Madagascar, Dr. Paton of New Hebrides, drove this quickening truth home. And yet nearer ties drew his thoughts to the mission field. Jani Alli of Corpus, the Moslem missionary to Moslems, lured Henry Parker to India, who thence followed Hannington to Africa and to the tomb. And by Babington's hearthstone they first met. He was spared the tidings of the late martyrdoms in China. His sorrow for the loss would have been tempered with the joy of triumph. But scribblers who backbite the dead, as rash and vain—even as cowards—would have aroused unmixed shame and wrath. To him the martyrs—then in will, now in act—had come, in order to win a God-speed from Cambridge, the teeming mother of missions, from John Eliot to Delhi and East African brothers.

His first book was a "Flora of Bath (1843)," the place of his education, and afterwards of his marriage. Then followed the "Flora of the Channel Islands and of Cambridge;" a "Manual of British Botany" (eight editions between 1843 and 1881; this still holds the field); works on brambles and countless articles on Natural History and Antiquities. Cambridge owes to him an "Index of the Baker MSS." (1848, in conjunction with three friends); "Ancient Cambridgeshire" (2nd ed. 1883); "History of the Infirmary and Chapel of the Hospital and College of St. John the Evangelist, 1874." The work freely done for others, will never be known.

The Ray Club, Cambridge Antiquarian Society, Entomological Society, honour him as a founder. Throughout the United Kingdom, whoever laboured to promote Science, Natural or Archaeological, turned to him for help, not in vain. On the 29th of November 1887, he addressed to the Ray Club a pastoral. For many years the Club "included active field Naturalists of various ages, who brought to our meetings the results of their researches, and submitted them to the members and their friends. This was of much use to those students and collectors; especially to such as were turning their attention to Botany and Zoology, many of whom have since become well known as Naturalists. . . .

"The Club is not performing its original functions, nor is it even a social meeting of those interested in Natural Science. The present members do not think it worth while to act as the early members did: viz. to look upon the meetings of the Ray Club as engagements, and not accept invitations to parties on those days. If it is likely that this is to continue, and I fear that that is the case, it seems to me that the Club has run its course. The older members can look back upon the time when important discoveries in Science were mentioned at its meetings before they had been known to the scientific public elsewhere, or even here. Now nothing of the kind takes place or is expected. . . .

"The admission of associates was for a time a very valuable addition to the Club, and to be elected as such was an object of ambition to many deserving and diligent students; but for many years the meetings have not proved interesting to them, and therefore very few of them attend. . . .

"I have now . . . been, I venture to say, the most regular attendant at its meetings for the long period of fifty years; and hence seen its great usefulness in its earlier period, and its more recent decline. . . . But whatever befalls our Club, let us beware lest luxury and self-indulgence take the place of the learning, science, and abnegation of self, which were so remarkably present in the great men of the recently departed generation of the University."

These lessons are enforced by lists, with biographical notes, of former and present members and associates. Let us cull a few names. Among original members—C. C. Babington, Sir G. E. Paget, John Ball; of later recruits—Adam Sedgwick, Sir G. G. Stokes, J. C. Adams, Alfred Newton, William Clark, James Cumming, W. H. Miller, F. J. A. Hort, G. D. Liveing, Sir G. M. Humphry, F. M. Balfour, Churchill Babington, T. M. Hughes, J. C. Maxwell, Sir A. W. Franks, R. B. Clifton, G. R. Crotch. Of these, next to his cousin, Sedgwick and Adams perhaps were most akin to Cardale Babington; their engraved portraits adorning his dining room, with those of Bishops Lightfoot and Westcott.

The functions of these Cambridge societies, it is pleaded, are now swallowed up by London. Babington would retort: Pleasure tracks students to their rooms; surely our duty is to follow the bane with the antidote; to dog idleness to its haunts, and fight it there.

His love of letters was genuine, his taste sound and manly. Of poets he affected, as one might surmise, Wordsworth and Cowper, spokesmen of Nature. 'God made the country, and man made the town.' Crabbe he prized for plain dealing. Sober-suited hymns—Thomas Ken's and George Herbert's—were more to his mind than raptures. Did you mention Ken, he was apt to ask, 'Do you know his Midnight Hymn? Most folk neglect that.'

If ever there were a Bible Christian, it was he. The book he judged, as he judged men, by its fruits. These he gathered, not from critics, or word-painters, but from the voice of Missions. 'There,' he would say, 'you have the romance of real life.' In the last few years I saw him often; for I bore messages from the Spanish and Italian Reforms, from Campello and Cabrera. In faith and hope he greeted for Southern Europe the dawning of a brighter day. Countrymen of Savonarola and Father Paul, of Enzinas and Cyprian de Valera, must at last awaken from millennial slumber and challenge a place in 'the parliament of man.'

Stedfast he was, some whispered strait-laced, in the resolve never to worship God and the world together. No bribe, no threat,

could bend him to what he thought evil, that good might come. He would break first. Did a charity, a church, eke out its funds by raffles; with such he would have neither art nor part. He found honesty the best policy. The light of his eyes, the Girls' Orphan Home, was like to expire for lack of funds. The inmates must be warmed, clothed, fed; ways and means nowhere appeared. His extremity was, in his old-fashioned phrase, God's opportunity. By what we call chance, after no appeal on his part, visitor after visitor turned up,—like the 'god from the machine' (the stage heaven) of Greek theatre, like 'the angel entertained unawares' of a lore deep-rooted in his heart,—to lift his cart out of the mire; that he put his own shoulder to the wheel, stands to reason; it was the instinct of his life, I might say, watchword, but that he was given to 'do noble things, not dream them, all day long.' To return to the visitors, the good fairies. One brought serge for frocks, one flannel petticoats, one gloves, one (in guise of a shoemaker) boots—in each case, to rig out the whole dozen. £10 came for coals 'by order'; a legacy of £100 fell in at the very nick of time; need highest, help nighest. Would you read the riddle? 'For the good man some will even dare to die.' 'Love is love's loadstone.' From mouth to mouth the news had flown; he wanted aid: who so niggardly as to withold a trifle? The very orphans went out (like a certain widow) to gather sticks for fuel: worked list slippers on the sly, to save shoe-leather—'after dusk,' you understand;—a widow's mite out-weighing in his mind the greater gifts and bringing tears to his eyes.

He dwelt much on the responsibility of graduates to tradesmen, servants, students. Jealously he guarded Sunday rest for his staff. Not that he was a pedantic Sabbatarian. Certain plants could not safely be left thirty-six hours without tendance: they must have it, it is their right. A short time would suffice for the job, and all be set free to serve God in His courts or to tighten home bonds, according to their conscience. To open a pleasure-ground to saunterers was quite another matter—no 'work of necessity,' as he construed the words; the demand was hollow, and must be withstood.

Business were on a sounder footing in Cambridge—in the world—if we one and all would take pattern by him. Where he gave his custom he never withdrew it, never went to London for what he could buy here, never left a bill unpaid. 'I have lost the best friend I ever had: my own for fifty years, my father's before me.' Such tributes fellow-townsmen laid on his grave. When he lay tethered to his chair, a cab-owner, employed by him from the first, went out four miles to pick flowers, such as he loved, for his table. Better, far better was he known in the town—aye, over Europe, and beyond—than in the modern University; and wherever known, honoured and loved. Unwittingly we have lost our Cambridge Lord Shaftesbury: consult the clergy of St. Barnabas' and St. Philip's.

Like his friend, Professor Miller, he was a cunning craftsman with tools, so keeping on a better foot with artisans than they who

look to shops for their every need. Such teachers breed manlier pupils, and are less costly to society. Self-help was the rule of Cambridge seventy years ago.

Having already, since 1877, shewn an interest in the postmen, in the Jubilee Year he invited all ranks in the Cambridge Post Office to meet Sir Arthur Blackwood, their official chief, at tea, and to hear addresses from him. Meeting on meeting was held from 6 to 10 p.m., the Professor presiding throughout, and 147 members of the staff being present in batches (three only were unavoidably absent). As a result of this effort arose a branch of the Postal and Telegraph Christian Association. Of this branch Babington was President at his death; it numbers eighty from central office and smaller offices in town and neighbourhood. In the fifteen months ending 15th August 1895, the branch collected the sum of £15, allotted to (*a*) the China Inland Mission, (*b*) Native Officials in India, sent through Catechists of the C.M.S., (*c*) distribution of Christian literature among the 4000 offices of Japan.

"It was always a pleasure to note the interest taken by the Professor in all that appertained to the moral, social, or spiritual welfare of the staff; 115 packets of religious literature, each containing three publications, are received at the head office monthly, for distribution amongst those who wear H.M. uniform in the postal and telegraph departments. . . . By the death of Professor Babington the Cambridge Post Office has lost a most valued friend and helper. Six members of the staff were present at the funeral service in St. John's College Chapel, J. Lambert, Esq., the Postmaster, being absent through an official engagement which could not be set aside."*

When he became a fixture he wrote to the Athenaeum Club: "I have been a member forty-four years; our roll is stinted. Pray, lest I play dog-in-the-manger, keeping out some younger man, strike out my name." One who knows him well, hearing this story, asked "Why then did he not resign his chair?" For reasons stated to the Vice-Chancellor of the day. "My successor will draw £600 a year from the chest; I draw £300. Already it is hard to furnish all that the garden craves; it will be harder then. I pay a deputy, and the work is well done." Deputies must receive one third, may not receive more than two-thirds of the stipend. He split the difference and paid one-half. The staff will say whether he was idle since 1891; whether no glory has passed away from their earth. The electors have to find a candidate worth to the University, to science, to Cambridge town, double of Charles Babington. They may search long and far.

His tolerance was catholic and unfeigned, cherishing as allies and teachers 'Agnostics' and Romanists, a Huxley and a Ball. For why? Frederick Maurice shall tell: charity is wide where faith is

* Information from Mr. Samuel Ellis, Assistant Superintendent, Post Office, Cambridge.

sure. '*Apology for the Bible?* I didn't know it needed an apology.' So cried bluff George III; so thought my friend. Heartily as he revered Truth's champions in Thirlwall, Julius Hare, Maurice, from the clash of debate he stood aloof. To him it was given, not to thread the tangled maze of doubt, but from dawn to sunset of life's day to walk right onward in the light of his *two Bibles*—so, on the 6th of May, 1835, Edward Stanley bade him call them—God's works and Word. Sir Henry Wotton, stunned with the din of strife, left, with his parting breath,* a warning to mankind: 'Itch of disputing, scab of churches.' By this itch Babington's withers were unwrung. One very dear to him, Fenton Hort, plunging into the sea of metaphysics, rose from the bath braced for action. Did he therefore scorn unclouded child-like belief? Nay, he half envied it. Rebuking credulity—on the side of 'Nay,' not less than of 'Yea'—as 'a dangerous disease of the time,' he confesses:—

The vast multitudes of simple Christian people who know no difficulties, and need know none for themselves, are of course not in question here. Fundamental enquiries constitute no part of their duty; and though the exemption disqualifies them for some among the higher offices of service to their fellows, it leaves them perhaps the more capable of others, according to the Divine allotment of various responsibility.

What doughtier master of tongue-fence than Schleiermacher? Yet even Döllinger asks: 'When all is said, where is the harvest?' Professor John Campbell Shairp gives body to a thought after which many minds were groping, Cardale Babington's earnestly as any:—

I have a life in CHRIST to live,
I have a death in CHRIST to die;—
And must I wait till Science give
All doubts a full reply?

Nay rather, while the sea of doubt
Is raging wildly round about,
Questioning of life, and death, and sin,
Let me but creep within
Thy fold, O CHRIST, and at Thy feet
Take but the lowest seat,
And hear Thine awful voice repeat,
In gentlest accents, heavenly sweet,
Come unto Me, and rest;
Believe Me, and be blest.

J. E. B. M.

By Professor Liveing, F.R.S.

(*Reprinted from the "Cambridge Review," October 17th* 1895.)

Generations come and go so quickly, and changes, not only of men, but of the customs and whole procedure of the University, succeed one another nowadays with such rapidity, that the past,

* His epitaph in Latin: 'Here lies the first author of the sentence: *Itch*, etc. Seek his name elsewhere.' The passage cited occurs in a panegyric on Charles I.

even the immediate past, and the men who figured in it, are soon forgotten. A cold shade too often falls on the men whose work has been done so quietly, and at the same time so well, that we hardly perceive that it is not part of the ancient structure of the University. Hence it will not be superfluous if one who had the privilege of being acquainted with the late Professor Babington for nearly half a century, and of working with him for a large part of that time, puts on record a brief sketch of his remembrance of the man and of his doings, in so far as the two were occupied with the same or kindred pursuits.

I did not come into residence at Cambridge until 1846, and at that time Babington was well on to middle age. He lived in College in the simple way which was the happy custom at St. John's, then, as now, one of the poorest, in proportion to the number on its foundation, of the Colleges in Cambridge. But he was then, and for some time after, the centre of activity in the University in the cultivation of Natural History. In his rooms, or in rambles over the country to explore, under his guidance, the peculiarities and products of diverse soils and climates, I met almost everyone living in Cambridge, or in the country round, who took any active interest in Natural History. In this way the lovers of Nature became acquainted with each other through him, and I can say for myself that I learnt more from my companions in study than from lecturers or private tutors.

The condition of the University at that time was so utterly unlike what it is now, that the younger men amongst us will perhaps find a difficulty in crediting what I have to tell of it. We were living under the Elizabethan Statutes, and the only avenue to honours at the B.A. commencement was the Mathematical Tripos. Although the Classical Tripos had been instituted for a quarter of a century, none but graduates in mathematical honours had access to it. There was absolutely no opening for those who followed after Natural Science. Not only were there no prizes or honours in that line of study, but no one could obtain any credit at all, except incidentally in the medical course, either in University or College examinations, for a knowledge of it. There were professors of some branches of Natural Science to be sure, but the professorships had hardly any endowment and were mainly honorary appointments. Men like Sedgwick and Henslow and Miller and Clark kept the lamp of science burning and kindled many lamps besides their own; but there was no laboratory of any kind in which an undergraduate could work, and such opportunities as existed for the study of Natural Science were created by the few men who loved it at their own cost. At the time of which I am writing Henslow had gone down to a living in Suffolk, and it was Babington more than anyone else who drew around him the young men, and the older ones too, who took pleasure in Natural History. This he did because his love of Nature was cosmopolitan, and he had a ready sympathy with all

of kindred tastes. The shyest lad was never afraid of him when once the ice had been broken, and we used to question him freely, without any reserve, about any natural objects we had noted or collected. He never betrayed the least impatience with any youngster who came to him for information, and if his own stores of knowledge did not supply the answer to the question, he could generally tell where it might be found. The appearance of his rooms testified to the methodical habit of mind which made him so useful to other people. He was always willing to take an undergraduate as a companion for a walk, in the days when walking, riding, or boating were the only modes of exercise in vogue during the winter half of the year; and a walk with him was as healthy and pleasant a recreation as a student jaded with mathematics or classics could well have. He knew all the haunts of plants and insects in the county, and it was a pleasure to him and to the four or five who sometimes accompanied him on a long day's ramble, to try and find something new to him as a denizen of the locality we were exploring; while such a search exercised in the best possible way our own knowledge and powers of observation.

Of course his science was not exactly what is most cultivated at the present day. We now delight to scan the minute anatomy of plant or animal, and to trace the physical or chemical actions by which it grows and breathes, lives and dies. But Babington, while he did not in the least despise such researches, loved Nature in its completeness; it was the living plant or animal he liked to study, its likes and dislikes, its choice of domicile, its habits and inherited instincts. In fact, its manner of life and the way in which it adapted itself to circumstances, the modes in which it approached to being an intelligent creature, were much more to him than the machine, however beautiful. His was just that love of living Nature which makes Gilbert White's letters so charming, and which Henslow and Charles Darwin had in a marked degree, and like true love it was utterly unostentatious. No one who does anything to advance science can entirely escape controversy, and Babington was no exception to this rule, but I never knew him use unkind words of any opponent, though I have heard him, with good-humoured sarcasm, express his contempt for mutual admiration societies, and for the desire to make capital out of scientific discoveries. By such a life Babington did more than the University at large are now at all aware, to promote the study of biology in the dark days that immediately preceded the dawn of the present system. I have dwelt on matters which my personal acquaintance with Babington brought under my notice, but there were more public ways in which he shewed his readiness to work, unpaid if need be, for the advance of science. At the first meeting of the British Association in Cambridge, in 1833, when it was much less of a holiday gathering than it has since become, we find him acting as secretary of Section D, Zoology and Botany; and in subsequent years, 1853, 1858, and

1861, we find him presiding over the same section. For the 1862 meeting at Cambridge he was one of the local secretaries. For many years he was the active secretary of the Cambridge Philosophical Society; and he was one of the founders of the Ray Club for weekly meetings of field Naturalists in Cambridge, and was always the most regular and active of its members. Besides, he took part in, or corresponded with, a number of other societies with kindred aims in various parts of the kingdom, and published more than one local flora, and many articles on Natural History, as well his "Manual of British Botany." As he was essentially a field Naturalist, he was led to pay particular attention to systematic Botany and Entomology, and his published work on Natural History relates very much to the same, and he has left his mark in the University by the care and labour he bestowed on the Herbarium. Such a collection, from the perishable nature of its material, cannot last for ever, but Babington did all that labour of love could do to render it perennial and hand it down in the best condition for the use of future generations. Perhaps some day Systematic and Field Botany, of which Henslow made such an admirable educational instrument, will be revived amongst us.

Babington was, however, no one-sided man; he had other pursuits besides those which I have mentioned, and the same method and discrimination which he shewed in one pursuit were conspicuous in the others. It is only with that one side of his life and character which bore most distinctly on his official position that I have proposed to deal, because I feel that his influence in the promotion of Natural Science here had been very real and effective at a time when there was no outward encouragement given to such pursuits, and because that influence was so modestly exercised that it escaped general observation, and runs the risk of being entirely forgotten, as soon as the generation which knew pre-scientific Cambridge shall have passed away. G. D. L.

By the Rev. H. C. G. Moule, D.D.

(Reprinted from the "Record," August 9th 1895.)

The *Record* of last week contained a brief notice of Professor C. C. Babington's life, and an account of the funeral service. It will not be thought superfluous, however, in the case of a man so eminent for ability and knowledge, and so decided as a Christian believer, to offer a few additional notices. For many years, up to the last of the Professor's honoured life, it was my happiness to know him, and to enjoy the great privilege from time to time of his conversation. Hours which cannot be forgotten are lived again as these words are written. "Their very memory is fair and bright."

It must be left to others to speak of Professor Babington's

excellence as a Naturalist. It will be enough here to say that he was the worthy successor (1861) of Henslow, and that he combined, in a degree not always attained by younger botanists, a deep insight into botanical law with a personal knowledge of plant-life as it is, which was at once vast, and lovingly intimate. His active field-work was continued with wonderful energy till his eighth decade was over. I remember well a walk with him at Braemar, up the long green slopes of Glas Meol, in 1888, when two little girls, the eldest not quite six, found in the savant of eighty the kindest companion, with a heart as young as theirs; and ever and again, quite to the hill-top, he would hurry aside to botanize with eyes and mind as keen as ever.

It is generally known that his antiquarian knowledge was second only, if second, to his botanical. It used to be pleasantly said of him and of his cousin, Churchill Babington, when the latter was Disney Professor of Archaeology, that either might well occupy the chair of the other. Charles Babington's F.S.A. was as well won as his F.L.S. and the crowning honour of F.R.S. I hold in grateful memory walks by his side in Scotland and long sittings in the bright drawing-room at Brookside, Cambridge, when it was my easy part to draw him on to give out some of his great and accurate knowledge, perhaps about the ethnology and antiquities of Ireland (a favorite subject), or about the Icelanders, whom he visited in 1846, or the beginnings of Christianity in Scotland, or about the Roman occupation of Britain. Something, but all too little, of his researches has been preserved in print; but even his writing cannot fully do the work of his singularly informing manner of conversation, absolutely devoid of the show of superior knowledge, but stimulating while it answered enquiry at every turn.

His long Cambridge life made him extremely interesting as the man of personal recollections. He entered St. John's in 1826, took his first degree in 1830, and was continuously an academical resident till his death last month. I have heard him describe the look of the old High Street which preceded King's Parade, and the west side of which was pulled down (to give room for the screen and new buildings of King's) in his first year; and how he had an undergraduate friend whose rooms were in that old court of King's where Simeon was first lodged, and which was sold to the University in 1828, to form part (as it now does, rebuilt) of the Public Library. If I am right, some of his Cambridge reminiscences were dictated within the last few years. Should they ever be allowed to appear, they will be a contribution to our local history of rare interest and value.

No one who knew Babington needs to be told of the noble harmony in him of ample and penetrating knowledge, with a faith perfect alike in simplicity and strength. Like Sedgwick, his elder friend, and Adams, his younger, he seemed to live above perplexity and doubt, in a bright, pure air and light, in which the imagined

conflict between research and the believer's hope was nowhere to be seen. To him the Bible was the Word of his Lord, reverenced and believed without reserve; worship was his delight; and his keen, practical interest in Christian work ran side by side with his enquiries into Nature and History. The calls on this interest were many. Now it was the spread of Scriptural Christianity in Ireland; now it was the admirable work done by Mrs. Babington among the Cambridge postmen and telegraph boys; now it was Jani Alli's work among the Mohammedans of Calcutta; now it was Henry Parker, another beloved personal friend, going out to live or die in Eastern Africa; now it was a gathering of undergraduates in his house, invited to meet some well-known Christian visitor; it might be Sir Arthur Blackwood, who again and again spoke in the drawing-room to hearts which had cause to bless the hour. And behind all these activities the Christian savant was living the personal life of faith and prayer. When after his great illness at Braemar he found himself at Cambridge, debarred from active life, it was the privilege of one friend or another to be asked to help him almost pastorally (not to speak now of the valued ministries of the Vicar of St. Paul's); and the helper's own soul was always greatly helped when the very simplest reading and prayer by his side carried evidently his whole heart with it, and was answered by his strong Amen.

Since his death some cards have been found amongst his papers each containing a motto written in his own hand. One is inscribed with Bishop Hacket's watchword, "Serve God and be cheerful," another with the verse, "Because Thou hast been my help, therefore in the shadow of Thy wings I will rejoice," a third with the stanza written by Dr. Valpy, of Reading, in his closing days (see *Memoir of the Rev. W. Marsh, D.D.*, p. 199)—

> In peace let me resign my breath
> And Thy salvation see;
> My sins deserve eternal death,
> But Jesus died for me.

This meagre obituary notice is a little better than nothing, but it seems sorrowfully inadequate as I review this noble life, with its great human endowments, its strenuous and elevated work, its pure domestic happiness (the Lord be with her whose devoted companionship and perfect care is now succeeded by such a solitude), its firm and living faith, and its blessed end. *His saltem accumulem donis et fungar inani munere.* But the briefest account of such a man is not quite "empty" if it convey a witness to Christ's truth and glory. For myself, the recollection of Professor Babington is full of that witness. He is present to me as a man who knew much in the human field, and was always learning more, but whose inmost and ruling characteristic was, that he knew Christ and was found in Him.

H. C. G. M.

Reprinted from "The Christian," October 3rd, 1895.

Professor Charles Cardale Babington, M.A., F.R.S., was the son of Dr. Joseph Babington. From earliest childhood he was surrounded by healthful stimulating influences, receiving from the lips of parents and relatives that sound teaching, both in doctrine and practice, which can only come by careful obedience to the one infallible guide—the Word of God. Through the long life which lately closed, that faith was never shadowed, but, with the simple trust of a child, the great student of Nature, the keen observer, the profound admirer of every detail in God's wonderful world, "kept the faith." "The works of the Lord are great, sought out of all them that have pleasure therein"—this was a verse he loved, and he longed that his own keen delight in the minutest outcome of the Creator's power might be widely enjoyed by others.

Many a young man attending his lectures as Professor of Botany at Cambridge, must recollect how carefully he ever sought to remind his class that in no study could the mind be more led to contemplate with wonder and adoration the God of Power and Love. And in these days of excitement and rush for pleasure, would it not be well if time were given, even during a busy period of the year, and far more during a vacation, for the quiet pursuit of some study in Natural Science, which not only furnishes opportunities for the awakening and strengthening of the observing powers, but which aids the heart in looking up and entering more fully into the words of the Psalmist: "Thou, Lord, hast made me glad through thy work"?

Professor Babington was a man of many-sided sympathies. The Irish Church Missions Society commended itself to him through personal knowledge gained when visiting Ireland botanically and archaeologically; and his deep interest led him to visit the missions in Dublin and Connemara, and also that in the Achill Islands.

The C.M.S. had in him a warm and true friend, and few of its supporters could be found more keenly interested in the perusal of its monthly *Intelligencer*. The work in Uganda had a large share of interest for him, but his warmest sympathies with the C.M.S. were in connexion with the beloved and honoured Rev. Jani Alli and the work he carried on amongst the Mohammedans in Calcutta. This name recalls the large numbers of University men who gathered from time to time in the home at Brookside, either for social intercourse amongst a very few at a time, or in crowded audiences to hear some chosen speaker on missions, or for a Bible-reading. For the latter, none was ever more warmly welcomed than the beloved Sir Arthur Blackwood, whose last Bible-reading in that Brookside home was given on Nov. 23, 1890, the eighty-second birthday of the Professor. Among the audience was a member of the Brahmo Somaj, who had expressed a desire to attend, and who afterwards said he would carry back to India the memory of the words he heard on that day.

Time would fail to tell of all the sacred influences exercised by Professor and Mrs. Babington amongst University men. It was in their home that the sainted Bishop Parker first met the Rev. Jani Alli, and formed the friendship which gave that devoted worker to India, and afterwards to his noble life-sacrifice on far Nyanza's shore. When the "Cambridge Seven" were dismissed for China, their choice of a chairman fell on Professor Babington, because, as they said, "he is so large-hearted, he loves all who love the Lord Jesus Christ." What a gathering it was; and on every subsequent visit of the China Inland Mission, the secretary, Mr. Broomhall, sought and invariably obtained the services of the same honoured chairman, until sickness deprived him of what he ever considered a privilege.

The London City Mission was a specially favorite Society with him; he often said he knew not what London would have been without it. Medical missions had for years a large place in his heart, and he delighted in the thought that here was a work in which all denominations could join, and with one heart unite in fulfilling our Lord's own command to preach the Word and heal the sick.

Last year, when the venerable Dr. Paton, of New Hebrides, was in Cambridge, he most kindly gave half-an-hour to visiting the Professor, whom he found well up in all the details of his grand and heroic labours. Spain and Italy found in him a warm friend. He largely aided the work in the former country, in which the Archbishop of Dublin takes so warm a share. Count Campello's work in Italy was also a cause of deep interest. Dr. Barnardo found in the late Professor a faithful and true friend. To these may be added liberal support of local work in Cambridge, into which time and space forbid us to enter.

A prolonged illness of nearly four years laid him aside from active work, but not from active heart-interest in the extension of our Saviour's Kingdom; and when able, as he was for much of that time, he followed with sympathetic eagerness the work at home and abroad. This is not the place in which to speak of the sacred memories which cluster round these later years. They brought him much of suffering and weakness, but the Hand that had led him all through his lengthened life, sustained him still. His peace, his patience, his praise, were lessons for all who came within his influence, and with unfaltering trust and unbroken peace his gentle spirit passed into the presence of the Lord he loved.

Thus will it be seen that the subject of this brief sketch furnishes a noble evidence of union in science and faith. Cambridge has lost one of her most distinguished sons. The gates of glory have opened to admit into the King's presence this cherished saint, who lives for ever with Him who is our Life.

"The memory of the just is blessed."

IRISH DISTRESS, JANUARY, 1840.

From the "Cambridge Chronicle," January 25, 1840.

[The following letter shews the interest which Professor Babington took from early days in the welfare of the Irish people.]

A Winter without Fuel! Destitution of the Irish Peasantry.

To the Editor of the "Cambridge Chronicle."

St. John's College,
Jan. 20th, 1840.

Sir,—I feel no doubt of your allowing me to occupy a small portion of your next number with the following statement of the present state of total destitution which exists in Ireland, in order that the attention of the members of the University and inhabitants of the town of Cambridge may be called to the great necessity which exists for vigorous measures being taken for the relief of our suffering fellow-countrymen, who are totally without fuel during this inclement season of the year. It will be seen from the following short extracts from letters addressed to the Rev. H. Marriott, Rector of Claverton, near Bath, that the poor people inhabiting the central counties of Ireland have been, owing to the continued wet weather, unable to provide their usual supply of fuel during the last summer; and that they are at the present time in want of a supply sufficient even for the purpose of cooking that scanty stock of potatoes which the late rainy season has permitted them to raise; and that from their distance from the sea, and their extreme poverty, it is not in their power to procure coal to replace the turf, upon which they have been accustomed to depend for winter fuel. I know from experience that the roofs of their wretched cabins are at all times quite insufficient to resist even the usual rain of that wet climate, and am now informed upon good authority, that in many cases the wet has penetrated through the mud walls with which they are constructed, so as not to leave a single dry spot within them; and that from that cause the potatoes—of which the crop has been far less productive than usual—cannot be prevented from decaying, so that the population of a large part of Ireland will certainly be soon reduced to a destitution of food and shelter,—if, indeed, they are not already in that deplorable condition. The resident gentry of that country have been doing all that their means will allow, to remedy the evil; but from its magnitude it is quite impossible for them to do more than will slightly alleviate the miseries of the people; and it is only by the liberal assistance of the English that they can hope to prevent the most appalling results.

The Rev. R. Daly, Rector of Powerscourt, writes: "We have reason to think that we are about to enter upon a year that will be marked with peculiar sufferings. Food is dear, and, what is worse

—of bad quality; and the common firing of the country is in most places entirely destroyed. I doubt not, but to a great extent, the people were prevented from cutting their turf; but the common evil is, that there has been an impossibility of drying and saving that which was cut. In travelling, this year, through much of the south of Ireland, I have seen the low-lying bogs covered with water, and the stacks of turf just appearing above the water. There is no turf fit for fuel to be had. How must they suffer, who depend entirely on turf! A sister of mine living in the county of Cavan, which depends on turf for firing, was obliged to send forty miles for coal! The poor cannot do this. I do not know what can be done; the evil is of such universal extent. I fear one result will be fever in the spring and summer. It is, indeed, beginning already."

Lord Powerscourt says: "I assure you I am not saying anything beyond the most bare fact, when I say that such a season and such a consequent prospect has not occurred in the memory of the oldest inhabitant."

The Rev. A. Douglas, Rector of Drumgoon, county of Cavan, writes: "I can bear the most ample testimony to the truth of the destitution and misery under which our poor now labour from the total want of fuel. This part of Ireland (Cavan) depends altogether for firing on a species of turf, called mud-turf; the mud is mixed up like mortar, then spread and divided by hand into the size for burning; it requires much fine weather to dry it; it is also a most expensive operation; and should a wet summer, like the last, come, the poor lose their labour and their winter provision of fuel. I am Protestant Rector of a large parish, which contains sixteen thousand acres, with a dense population of thirteen thousand souls; the poor have no means to procure sea-coal, being more than thirty miles from any port. I have been over my parish, and can state, with truth, that scarce a turf-stack can be seen, even at the cottage-door of the most respectable farmers; the fuel, or mud-turf, all out in the bogs; the tops of the small stacks just above the water. The evil does not stop here; the frost which has come the last few days bursts and ravels the turf, so that it is altogether destroyed, and the whole of last summer's labour of the poor is lost." He adds, that the people must, under the best circumstances, be "without any fuel for more than eight months," as no new turf will be ready to burn till August; and that he has been a constant resident rector for more than thirty years, and says, "in the presence of God, I declare I never saw or felt before, such a scene of horrors for the poor, as that which now presents itself to my contemplation."

The Earl of Cloncurry writes: "The statement as to the nearly total loss of the year's fuel is by no means exaggerated; and to those who inhabit damp cottages, with scanty clothing, and more scanty diet, the want of a fire is a dreadful privation."

I could give further extracts, but that I think it unnecessary; and now, Sir, let us who sit by our comfortable fire-sides, and have

good and sufficient food upon each succeeding day, consider these statements, and endeavour to alleviate, as far as lies in our power, the miseries of our unfortunate fellow-countrymen; giving at the same time, thanks to Almighty God, that we and those around us are not reduced to a similar state of destitution.

In the city of Bath, a public meeting was held, and subscriptions to the amount of £211 were collected upon the day of the meeting. I would propose that a Committee be formed in this town, for the purpose of collecting subscriptions from the University and Town,—entering into communication with the Rev. H. Marriott (who has taken the lead in this charitable object), and with the Committee which is now forming in Dublin—and taking such other steps as may appear to be advisable. Apologizing for the space I have occupied in your columns.

I am, Sir, your obedient Servant.

CHARLES C. BABINGTON.

By James Britten, F.L.S.

(*Reprinted from the "Journal of Botany," September*, 1895.)

Charles Cardale Babington was born on November 23rd, 1808, at Ludlow, in which town his father, Joseph Babington, was a physician. When he was four years old, the family removed to Spaw Place, Humberston Gate, Leicester, and subsequently, Mr. Babington having received ordination in the Established Church, to Hawksworth, in Nottinghamshire. Mr. Babington had a fondness for botany, and contributed a list of plants found near Ludlow to Plymley's *Agriculture of Shropshire*. While at Ludlow he sent lichens to Sir J. E. Smith, some of which were figured and described for *English Botany* (see *E. Bot.* 450, 740, 887).

When he was eight years old, young Babington was sent to Needwood Parsonage, Staffordshire, for private tuition, where his diary tells us, he was not well treated. After being at another private school, he was sent (in 1821) to the Charterhouse, but here he did not stay long. "Not getting on well with my learning," says his diary, "I was removed at my own wish from the Charterhouse and went to Mr. W. Hutchins's school at Bath." His father, whose infirmities had compelled him to abandon clerical duty, had at this time settled in Bath. During the time that young Babington was a day-scholar at the school mentioned, he "formed an intimate acquaintance with the neighbourhood of Bath, and began to study its botany and to collect plants and insects." His father had previously taught him the elements of botany, from Lee's *Introduction* and Withering's *Arrangement*.

On Oct. 11th, 1826, Babington took up his residence at St. John's College, Cambridge. In the following year, he notes under April 30th, "Went to Prof. Henslow's first lecture on Botany," and on May 2nd, "Conversed with him after the botanical lecture, and was asked to his house. Assisted Prof. Henslow in putting things in order before and after the lectures." In 1830 he took his B.A. degree and became a Fellow of the Linnean Society, of which at the time of his death he was the "father." In 1833 he went into college, and was created M.A.

It was in this year that his more definite botanical work began. We have seen that during his school days he studied the plants of Bath, and on visiting that city in July, 1831, he was requested by Mr. E. Collings "to look over a list of the Bath plants, and make additions and corrections. I found the list so imperfect that it was determined to endeavour to complete my own list of those which I had observed. I worked hard all the summer, and finished the manuscript on the 15th October, having had the loan of Dr. H. Gibbes's *Flora Bathon.* and assistance from Mr. E. Simms and Dr. J. F. Davis."

The *Flora Bathoniensis* was published at the beginning of 1834; it contains a few critical notes and references to continental floras, which indicate the lines of the author's future work, and adds *Euphorbia pilosa* (called *epithymoïdes*) to the British Flora.

In 1836 (at its second meeting) Babington became a Fellow of the Botanical Society of Edinburgh. In 1837 (at the beginning of which he "was taken with the prevalent influenza") he made his first visit to the Channel Islands, in company with R. M. Lingwood, with whom and John Ball, another Cambridge friend, he had visited Ireland in 1835.* He returned in 1838, and the results of his observations are embodied in his *Primitiae Florae Sarnicae*, published in 1839. A much more important work, however, was already in progress. In his diary for 1835 is the entry: "May 11. Commenced my *Manual of British Botany*," and with this his time was largely occupied until 1843, when the last proof of the book ("which has kept me most fully occupied all the winter") was corrected; the preface is dated May 1st, 1843. Of this work it is not too much to say that it revolutionized the study of British plants, and gave an impetus to thought and work among British botanists to a degree unequalled by any publication of the century. To say this is by no means to ignore the excellence of Smith's *English Flora* (1828), or to depreciate other books then existing, such as the seventh edition of Withering's *Arrangement* (1830). But the bulk of these, augmented as it was in the latter case by the addition of a vast quantity of extraneous though not uninteresting matter, rendered them cumbrous for field work; and although the useful *Compendium of*

* Babington's account of this visit will be found in *Mag. Nat. Hist.* ix. 119—130 (1836).

the English Flora (which first appeared in English in 1829) was sufficiently convenient in size, the descriptions were meagre. Hooker's *British Flora*, which first appeared in 1830, successfully supplied the demand for a compendious handbook, as is shewn by the fact that four large editions were exhausted in less than twelve years. These were all arranged on the Linnean system, but the fifth edition, published a year before the *Manual*, followed the natural arrangement. But by this time Sir William Hooker had become Director of Kew Gardens, and it is not astonishing that his new labours left him but little time for British botany. Save in its rearrangement, this edition shews little advance upon its predecessors; and the time was ripe for the appearance of a new book.

Other important reasons for the production of such a work are well set forth in the preface to the first edition of the *Manual*—a thousand copies of which, as of subsequent editions, were printed. Babington tells us that, having taking up British botany, he "had not advanced far in the critical examination of our native plants before he found that a careful comparison of indigenous specimens with the works of eminent continental authors, and with plants obtained from other parts of Europe, must necessarily be made, for it appeared that in very many cases the nomenclature employed in England was different from that used in other countries, that often plants considered as varieties here were held to be distinct species abroad, that several of our species were only looked upon as varieties by them, and also that the mode of grouping into genera was frequently essentially different. The discovery of these facts produced considerable astonishment, and the author was led to consider what could have been the cause of so remarkable a discrepancy. The following appears to be the most probable explanation. It is well known that at the close of the last century Sir J. E. Smith became the fortunate possessor of the Herbarium of Linnaeus, and was thus enabled to ascertain, with very considerable accuracy, the British species which were known to that distinguished man, and to publish, in the most improved form that he had given to his system, a remarkably complete and excellent Flora of Britain. Then followed the long-continued separation of this country from France, and indeed from most of the European nations, by which we were almost completely prevented from observing the progress which botanical science was making in other countries, and at the same time our own flora was continually receiving accessions of new plants which it was nearly impossible to identify with the species detected and published in France and Germany. At the conclusion of the war we had become so wedded to the system of Linnaeus, and, it may even perhaps be allowable to add, so well satisfied with our own proficiency, that, with the honourable exception of Mr. Brown, there was at that time scarcely a botanist in Britain who took any interest in or paid the least attention to the classification by natural orders which had

been adopted in France, and to the more minute and accurate examination of plants which was caused by the employment of that philosophical arrangement. . . . . The publication of so complete and valuable a Linnaean work as the *English Flora* greatly contributed to the permanency of this feeling, and accordingly we find that at a very recent period working English botanists were unacquainted with any of the more modern continental floras, and indeed even now many of those works are only known by name to the great mass of cultivators of British botany."

The continental floras mentioned as having been consulted for the *Manual* are entirely German—Koch's *Synopsis*, Reichenbach's *Icones* and *Iconographia*, and Sturm's *Deutschlands Flora*. In the second edition (1847) Nee's *Genera* and Schkuhr's *Riedgräser* are added. The third and fourth editions (1851 and 1856), although including "many additions and corrections," do not present many noteworthy changes, except in detail: but the care which the author took in revising each edition should be mentioned; Babington's interleaved copies of each issue are preserved in the Cambridge Herbarium, and afford ample evidence of the conscientious work which rendered the often abused phrase "new edition" no empty formula. Mr. Newbould had a similar copy; his suggestions were always at Babington's service, and frequently proved useful.

The fifth edition, published in 1862, is noteworthy for the recommendation of numerous French works, especially Grenier and Godron's *Flore de France*, and of Fries's *Novitiae*. From this it will be seen that by this time Babington had mastered the contents of the principal critical floras of the Continent, and had recognized their bearing upon British plants. Following his *dictum* "It is most desirable that the students of our native Flora should not confine their attention to books published in this country," comes the sound advice which even at the present time cannot be considered altogether needless:—" It is necessary to warn students against the very common error of supposing that they have found one of the plants described in a foreign Flora, when in reality they have only gathered a variety of some well-known British plant. The risk of falling into such errors renders it necessary to consult such works as those of Messrs. Boreau and Jordan with great caution, lest we should be misled by descriptions most accurate indeed, but often rather those of individuals than species. Amongst plants so closely allied as are many of those called species in some continental works, it is scarcely possible to arrive at a certain conclusion without the inspection of authentic specimens."

Shortly after the publication of the fourth edition of the *Manual*, an important rival had appeared in Mr. Bentham's *Handbook of the British Flora* (1858). There is no need here to enter upon a discussion as to the relative merits of these works, each of which has proved useful to many generations of botanists; but it may be well to reprint the remarks which Babington made in the preface

to the fifth edition of the *Manual*—the next which appeared after the publication of Bentham's book, which latter, as every one knows, considerably "reduced the number of our native species." No one would disparage for one moment the value of Bentham's work or the sanity of his conclusions; yet it is well known that it was mainly based upon the examination of herbarium specimens, and this in spite of the large number of living plants always at hand in the Gardens to which the Kew Herbarium is an adjunct.

"An attempt has recently been made," says Babington, "greatly to reduce the number of our native species. The results obtained seem to be so totally opposed to the teaching of the plants themselves, and the evidence adduced in their favour is so seldom more than a statement of opinion, that they cannot safely be adopted; nor does the plan of the present work admit of discussion of the many questions raised by them. Also, it has been laid down as a rule by some botanists that no plant can be a species whose distinctive characters are not as manifest in an herbarium as when it is alive. We are told that our business as descriptive botanists is not 'to determine what is a species,' but simply to describe plants so that they may be recognised from the dry specimen. The author cannot agree to this rule. Although he, in common with other naturalists, is unable to define what is a species, he believes that species exist, and that they may often be easily distinguished amongst living plants, even when separated with difficulty from their allies when dried specimens only are examined. He also thinks that it is our duty as botanists to study the living plants whenever it is possible to do so, and to describe from them; to write for the use and instruction of field- rather than cabinet-naturalists—for the advancement of a knowledge of the plants rather than for the convenience of possessors of herbaria; also, that the differences which we are able to describe as distinguishing plants, being taken from their more minute organs, is not a proof that they constitute only a single species. It seems to be our business to decide upon the probable distinctness of plants before we attempt to define them; to make the species afford the character, not the character form the species."

The sixth (1867), seventh (1874), and eighth (1881) editions were reviewed at some length in this Journal on their appearance by Mr. Carruthers, Dr Trimen, and myself respectively,* and the principal changes which accompanied them duly noted. One sentence may be quoted from the last of these which is applicable to every edition: "The words 'corrected throughout' which appear upon the title page are always amply justified by the contents of the volume; and although many of the alterations introduced into each successive edition seem in themselves trifling, they shew a gratifying anxiety for accuracy in detail, and that no pains have

* *Journ. Bot.* 1867, 184; 1874, 215; 1881, 280.

been spared to ensure a satisfactory result." Babington's deprecatory note regarding these alterations and the modest statement of his aims with which it concludes are very characteristic: "The progress of our knowledge has caused changes in the nomenclature in successive editions of this book and in the author's views of the value of forms—as species or varieties. The inconvenience of these alterations to all, especially to statistical botanists, is fully admitted; but the author does not know of any mode by which it can be avoided if each edition is to be brought up as completely as is in his power to the contemporary knowledge of our plants. No alterations have been admitted until careful study has convinced the author that they are required. He may have fallen into error, but has earnestly endeavoured to discover the truth." With regard to nomenclature, however, Babington was by no means rigorist, as will be seen by a reference to his paper on the subject in this Journal for 1888, pp. 369—371, although in the case of the transference of a species he supported "the plan adopted by most botanists until very recently, of giving as the authority for the binomial name the author who placed [the species] in its new and apparently more correct genus."

Although, as every one knows, Babington was, even before the publication of the *Manual*, the recipient of communications from "botanical friends and correspondents almost too numerous to mention," it may be of interest to cite the names of those whom he singles out for special mention. In the first edition he names J. H. Balfour, D. Moore, W. Borrer, E. Forster, J. E. Henslow, and W. A. Leighton, and most of these are mentioned in the second edition. Thereafter none are named; had any been mentioned, it would assuredly have been Mr. Newbould, whose devotion to the *Manual* and its author amounted almost to a *cultus*, and whose excitement during the preparation and on the publication of a new edition was almost ludicrous in its intensity.

It seemed desirable to say what had to be said about the *Manual* in a connected form; but we must now return to the period when the first edition appeared. Before Babington had any official connection with the University, his influence was apparent in many directions. He took an important rather than a prominent part—for he was always of a retiring disposition—in numerous projects which space will not allow us to enumerate here, and was generally helpful. A resident of more than forty years testifies that he was then "the central figure among those in Cambridge who took delight in Natural History: and his simple character and keen interest in nature were very attractive to younger men who had similar likings. He certainly did more, in my time, than any one else to promote the study of Natural Science in the University." As an archaeologist he took a high position; he published papers on "Ancient Cambridgeshire" and the history of the chapel of his college.

In 1836 a society called the Ray Club was formed, to take

the place of Henslow's Friday evening parties: in this Babington took a leading part, and he was the last survivor of its founders. In 1844 the Ray Society was established; Babington was on the council, and many of the publications, such as the *Memorials of Ray* and the volume of his *Correspondence*, owe much to his help: the preface to the latter says that he had "looked over the proof sheets, given the modern names of the plants referred to, and added many valuable notes." In or about 1862, a Committee of the British Association, consisting of Babington, Newbould, and J. E. Gray, was appointed to prepare a report on the plants of Ray's *Synopsis Stirpium*, but this, unfortunately, was never presented.

The list of papers under Babington's name in the Royal Society's Catalogue, which extends down to 1883, is 131, and several have appeared since then in this Journal. His first paper, however, was not botanical, but entomological; it appeared in the *Magazine of Natural History* for 1832, and enumerated certain "Additions to the List of British Insects," among which are some beetles new to science. He was an ardent student of insects, and at first his work seems to have lain in that direction, as out of the first twelve papers which he published, seven were entomological. But his last contribution to entomology was the "Dytiscidae Darwinianae," published in the Entomological Society's Transactions for 1841—43, since which time his published papers have been almost entirely botanical. A large number of these appeared in the short-lived *Botanical Gazette* (1849—51) and in the pages of this Journal, of which he has always been a friend and supporter: the first article in our first volume is from his pen, and his name appeared in our list of contributors for 1891. Among papers calling for more especial mention may be noted the "Revision of the Flora of Iceland,"* in which he brought together with much care the results of previous investigators, embodying with these his own observations made during a brief visit in 1846. This and his visit to the Channel Islands were the only occasions on which Babington left England.

Besides the papers which stand in his name in the above-mentioned Catalogue, Babington described several plants for the *Supplement to English Botany* (*Glyceria Borreri* Bab., t. 2797), the first and last plates of which were accompanied by text from his pen. The first *Glyceria Borreri* (t. 2727, issued 1837), had been previously detected by Borrer, and Babington named it "after its discoverer, as a slight acknowledgment of the many favours received from him." The figure had been drawn by Sowerby as far back as 1829, and is marked by him "Glyceria species nova (?)": Hooker, however, notes on the drawing, "I cannot make this a new species": there are also notes in Borrer's and Babington's writing. The last *Anacharis Alsinastrum* (t. 2993), was not published until 1865. This plant, as it is well known, shortly after its introduction

* *Journ. Linn. Soc.* xi. 282—348.

to the Cambridge Botanic Gardens, made its escape through a waste pipe, found its way into the Cam, and in 1852 impeded navigation and threatened to injure the drainage of the fen country. The plant was styled by some humorous undergraduate *Babingtonia*, to which some uncomplimentary epithet—*diabolica*, *pestifera*, or *damnosa*—was added. It is unnecessary to say that Babington was in no way directly responsible for the introduction, and the name does not find any place in the *Index Kewensis*, although it certainly has some claims to inclusion. The genus named in his honour by Lindley (*Bot. Reg.* 1842, t. 10) is now by common consent referred to *Baeckea*, so that no distinct generic type is associated with him, although *Atriplex Babingtonii* commemorates his early critical work at a difficult genus.

It was in 1846 that the "Synopsis of British Rubi"—the forerunner of the important book issued in 1869—appeared in the *Annals and Magazine of Natural History*. It was reprinted in pamphlet form, and gave an impetus to the study of this troublesome group, the effects of which are by no means expended. The later work, *The British Rubi*, was printed at the cost of the University Press, and was to have been accompanied by a volume of plates by Mr. J. W. Salter. Some of these were completed and printed off, and are extremely beautiful; but the work was arrested by Salter's death, and has not since been proceeded with. The acquisition of Genevier's great *Rubus* herbarium enabled Babington to pursue the study of this, his favourite group, with the assistance of a large series of French types: he had for many years been preparing a new edition of the *Rubi*, in which the comparison of our English plants with these would have doubtless suggested interesting conclusions. In 1851 he was elected F. R. S.

In 1860 Babington published his *Flora of Cambridgeshire*—an excellent book, to which may be largely attributed the historical treatment which prevails in our best local floras.

On the death of Prof. Henslow, on May 16th, 1861, it seemed obvious that Babington would be his successor, and in less than a month he was appointed to the post. He at once set to work to improve the Herbarium, which was in an unsatisfactory condition; additions were steadily made, both to it and to the library, some of them, such as Genevier's *Rubi*, at Babington's expense. His own time was so much occupied, as he states in the Museum Report for 1881, in examining plants for other people, that the work of incorporating additions and rearranging the collections was mainly left to his assistants—Messrs. W. Hillhouse (1878—81), T. H. Corry (1881—83), M. C. Potter (1884—91), and I. H. Burkill, who still occupies the post, and to whose kind helpfulness in the preparation of this memoir I am largely indebted. Mr. Corry, it will be remembered, met his death by drowning, and Babington's notice of him (*Journ. Bot.* 1883, 313) shews a warm appreciation of his talents and personal qualities—"I lose in him not only an excellent scientific helper, but also a very greatly valued friend."

Mr. Burkill writes: "His extreme kindness kept him always busy for others—this was one of his most noticeable characteristics. When he appointed me as his assistant in 1891, it was but a month before his illness; but then and during the three previous years, when from time to time I had had occasion to ask his advice about any plant, I always found him busy with the same work—either *Rubi* from his own collection or *Rubi* for some one else: more rarely it would be something of a different genus, but nearly always it was work for somebody who had written to him. I myself owe much to him for his great kindness. When I began work here, he used to come down an hour earlier than usual, because he found it suited me better, and he liked to be there to help me in getting started. He was extremely retiring in many ways, and though he usually spent more money on the maintenance of the Herbarium than the allowance, he never mentioned it in his report. He was extremely methodical: everything was noted down at once. His critical work was rather slow and sure, for he always said that another would take in the difference between the plants in less time than he could. He did not see differences at the first glance, but worked them out slowly and thoughtfully."

The extreme kindness which Babington shewed to all with whom he came in contact, and especially to beginners in his favourite science, was very marked. He answered letters promptly, and his replies were full of interest; many of those who subsequently made for themselves a name among British botanists were stimulated by his encouragement. He was glad to share his pleasure with others; when away on a holiday in some place where interesting plants abounded, he would say, "We must get Newbould down here," conscious that his old friend and admirer would take keen delight in the things which gave him so much happiness, as well as in the genial company which would recall early rambles together. For, as the sketch which I published of Mr. Newbould* shews, a warm attachment existed between the two botanists, dating from their college days. Newbould had met Babington in Scotland in 1845, had accompanied him to Pembrokeshire in 1848, to Ireland in 1852 and again in 1858, and to North Wales (with Jacques Gay) in 1862: they had previously worked in Cambridgeshire and Essex, and in later life a visit to Babington was one of the keenest joys of Newbould's existence. They spent a pleasant time together at Grange-over-Sands in 1884, after the meeting of the British Association at York. Babington's affectionate tribute to the memory of his friend will be found in this Journal for 1886, p. 159.

Any account of Babington would be incomplete which did not contain some reference to the strong religious spirit which dominated his life. Brought up in the Evangelical school of thought, which at that time aroused the Established Church from the lethargy

* *Journ. Bot.* 1886, 161—174.

into which it had sunk, he, unlike so many of his contemporaries, —the two Newmans, for instance—never deviated from his early beliefs. As a boy he became acquainted with William Wilberforce, an old friend of his father; at Cambridge as an undergraduate he heard Charles Simeon preach, and later took others to hear him; he attended missionary meetings where Baptist Noel spoke; he supported Connop Thirlwall in the action which he took as to the admission of dissenters to academical degrees; and in later life—indeed, up to his death—actively supported a number of philanthropic societies, all characterized by a strong Protestant tone. His drawing-room was a centre for meetings of these bodies, and, in conjunction with Mrs. Babington, he promoted missionary work both at home and abroad. But all was done quietly and unostentatiously; and however strong his principles might be, his natural kindliness of heart and consideration for others prevented that aggressive assertion of them which characterizes the less cultured representatives of Protestantism. The various and ever-varying aspects of Biblical criticism and the evolution hypothesis never disturbed him. His friend, the Rev. H. C. G. Moule, Principal of Ridley Hall, writing in the *Record* for Aug. 9th, says: "Like Sedgwick, his elder friend, and Adams, his younger, he seemed to live above perplexity and doubt, in a bright, pure air and light, in which the imagined conflict between research and the believer's hope was nowhere to be seen. To him the Bible was the Word of his Lord, reverenced and believed without reserve; worship was his delight; and his keen, practical interest in Christian work ran side by side with his enquiries into nature and history." But he was fair to those from whom he differed. Prof. Mayor, writing of a memorable encounter of the British Association, of which body Babington was always a member,—it was at a meeting of the Association that he first met the lady whom he married in 1866, —says: "I well remember the glee which he displayed over Samuel Wilberforce's discomfiture by young Huxley. In creed, doubtless, he was much nearer to the Bishop than to his conqueror, but he distrusted and hated clap-trap as a stop-gap for argument and fact. In later life he lamented the tendency to forsake Huxley's *Physiology* as outworn."

Like many of the older men, Babington was not in sympathy with the more recent tendencies of botanical research, the introduction of which by Dr. Vines, coupled with the non-insistence of the attendance of medical students, caused a great diminution in the number of those present at his lectures. Prof. Mayor says: "He pitied the botanist who, never seeking living plants in their homes, armed with microscope, ransacks their cell and fibre. A student of the first class in the Natural Science Tripos, observing a specimen of (what I will call X) in his drawing-room, on learning the name cried, 'So that is really X? I know all about that; I guessed it would be set, and it was.' Science which cannot see

the wood for the trees, growing herb or animal for cell laid bare by scalpel, had for him no charm. His joy in Nature was the joy of a child." On one of his few visits to the Botanical Department of the British Museum he told us with much relish a story which may be a variant of the foregoing—how a young lady, coming into his room and seeing a specimen of *Peziza coccinea* on his table, was struck by its beauty, and asked its name. On being told, she exclaimed, "Peziza! why I have been working at that for a fortnight!"

During the later years of his life, Babington—always in company with his devoted wife, who shared all his interests—spent long periods of rest in various parts of the country—Yorkshire, Cornwall, Durham, and Scotland, especially at Braemar, which they visited annually from 1886 to 1891. The rest of the year was spent at Cambridge, where on a fine day he might be seen in his wheel chair either in the Botanic Gardens or on the Trumpington Road, or at other places, or occasionally going for drives, almost the last drive being to Cherry Hinton Chalk-pit close (1894). All the winter he would be in the house, and read from morning to night, his sight being excellent. He was never in the Herbarium after August, 1891, but he retained charge of this till his death, his assiduous assistant, Mr. Burkill, visiting him weekly to receive such instructions as were necessary. Some two or three years since he appointed Mr. Frank Darwin Deputy-Professor, with the charge of the laboratories. His own herbarium and library, the latter containing some 1600 volumes, are bequeathed to the University; the interest of the former, of course, lies mainly in the *Rubi*, but there is also an extremely interesting collection of British plants, formed during his long botanical career.

His end, like his life, was peaceful. When the news of his death, which took place on the 22nd of July, reached me, I was staying at a Benedictine abbey in the far north; and the motto of the house—"Pax"—seemed the most fitting message of sympathy which could be sent. It is pleasant to know that the message gave comfort to the one for whom it was intended. The funeral took place at Cherry Hinton on July 26th, none but friends and the Cambridge botanical staff being present.

BRITISH RUBI.

By James E. Bagnall, A.L.S.

To no British botanist are we more indebted for our knowledge of critical plants than to Professor Babington, who in the various editions of his great and classical work, *The Manual of British Botany*, has always been the advanced leader, giving to its students descriptions of all recent additions to our flora; and the results of his extensive knowledge of the botanical literature of the continent, and of his examination of the herbaria issued by continental experts.

But the special work of Professor Babington has been the study of the *Rubi*. For more than fifty years his earnest attention was given to the plants, and by his patient plodding and careful investigation, the chaotic state in which he found *Rubi* in the earlier days has been transformed into the more systematic arrangement of recent times.

The first work specially devoted to the study of the *Rubi*, "A Synopsis of British Rubi," was published by Professor Babington in *The Annals of Natural History* (1846). This was afterwards issued as a separate work, and was the first complete and systematic account of the British *Rubi* that had at that time been given, but both the nomenclature and arrangement were merely tentative, and were modified as knowledge grew from more to more. In this essay descriptions are given of thirty species and thirty varieties, together with valuable notes and comments following the description of each. In a condensed form, but with one or two additional species, this was afterwards given in the second edition of *The Manual* (1847). The influence of this work "The Synopsis" is shewn in the fact that, in the third edition of *The Manual* (1851) forty species and thirty varieties are described, but there is very little alteration in the systematic arrangement, *Rubus Leesii*, *R. hystrix*, *R. pallidus*, *R. scaber*, *R. pyramidalis*, being amongst the additions to his former list. In the fifth edition of *The Manual* (1862), forty-three species and nineteen varieties are enumerated and described, some of the varieties of former editions being raised to specific rank. The arrangement of the plants gives evidence of careful thought and study; this was much modified, and was that which has since been adhered to in all his later editions of *The Manual*: *R. Colemanni*, *R. Bloxamii*, *R. rosaceus*, *R. pygmaeus*, *R. diversifolius*, *R. foliosus*, being now described as species, whilst *R. calvatus* became a variety of *R. Salteri*.

In 1869 Professor Babington's great work, *The British Rubi, an attempt to discriminate the species of Rubi known to inhabit the British Isles*, was published. The value of this work can scarcely be estimated. If it had been published in the form originally intended, *i.e.* with plates illustrating each species, it would have been a grand work, but I think scarcely so useful as in its present form; its cost would have placed it far above the reach of the ordinary student, so that only the few more wealthy ones could have availed themselves of its help. This was the first work published in Britain in which an elaborate account was given of these plants, and for the first time the British student of the *Rubi* had a guide, helpful and trustworthy. In *The British Rubi*, forty-three species and twenty varieties are described with a fulness not before attempted, so that all the minuter details, of habit, clothing, leaf form, and margination are given; but that which adds so materially to the value of this work, is the commentary which follows each description, shewing the fulness of knowledge and vast experience of the author, and

rendering the work not only valuable as a guide, but also of the greatest charm to one interested in this study. Beside the descriptions and valuable comments, the area of each plant is given, together with the geographical distribution throughout the British Isles, so far as was then known; the Watsonian provinces being adopted. The result of the publication of this work was a great increase in the number of the students who gave special attention to the *Rubi*, and all that has since been done in this study among British botanists owes its origin to *The British Rubi*. The fundamental knowledge of the plants, and the higher critical power of our modern British students, have been mainly gained by the use of this book.

The seventh edition of *The Manual* (1874), contained the condensed descriptions of the *Rubi* given in the above work, with the same arrangement of the species, two varieties, *R. Briggsii* and *R. Reuteri* being the only additions; but between 1869 and 1878 very much work had been done by British specialists in the *Rubi*; many of the students had availed themselves of the help of Professor Babington in determining their plants (help always given, with the prompt, courteous kindness, so characteristic of our leader in this study); the result being that very much material of great value and interest had accumulated; and in the *Journal of Botany* (1878), Professor Babington gave a series of papers, *Notes on Rubi*, in which he carefully reviewed certain critical species, with a fulness so characteristic, and a courteous respect for the opinions of other workers, so specially his own. The plants more especially treated being: *R. ramosus*, *R. Warrenii*, *R. festivus*, *R. obliquus*, *R. mutabilis*, *R. cavatifolius*, *R. emersistylus*, *R. heteroclitus*, *R. Purchasii*, some of which were retained as additions to our flora.

The salient features of these "Notes on Rubi" were afterwards given in the eighth edition of *The Manual* (1881). This was the last edition published of this great work, which for fifty years had been the text-book of all advanced British botanists. In a footnote on page 106, the author gives evidence that a closer examination of continential herbaria, and the study of the works of Genevier and Focke, had influenced him. He says, "When the continental plants are better known, it is feared that considerable changes of nomenclature will be necessary." This sentence was characteristic of the writer, who appears to have been always ready to receive new opinions, if those opinions appeared the more worthy of acceptance. In the eighth edition of *The Manual*, forty-eight species and twenty-seven varieties are given, and in addition to the plants noticed in "Notes on Rubi," *R. hemistemon* and *R. hirtifolius* are described as species, and *R. adornatus* as a variety of *R. foliosus*.

After the publication of this edition of *The Manual*, Professor Babington seems to have very closely studied the Herbarium specimens of Genevier and typical specimens from Dr. Focke, and to have carefully compared our British species with these; to have also given much attention to the published works of these great

authorities, and to the writings of P. J. Müller and L. V. Lefevre, and these studies evidently influenced his later views, so that in the list of *Rubi* published in the London Catalogue of British Plants (8th edition, May 1886) we have sixty-one species and thirty-five varieties given as natives of Great Britain, with several changes in the nomenclature; and in the *Journal of Botany* (July and August, 1886) he published a most valuable paper, "Notes on British Rubi," with special reference to the list given in the London Catalogue (8th edition). In this all the special plants are noticed, and the new species are fully described. This was the last important communication from Professor Babington, and though published just forty years after his first special work on this subject, "The Synopsis" was still as full of vigorous thought as was his earlier production.

Through his influence great advances had been made in the study of these difficult plants, and from first to last we find him ever ready to accept new light, and as enthusiastic in his love of his study in the latter days as he had been half a century before.

But it was not merely as our greatest authority on the Rubi that Professor Babington was known, but also as one ready to devote his valuable time, and to give his great knowledge to the help of others far less favoured, and I know by my own experience that his help was always given without stint, and with a courteousness that enhanced the service.

I think I ought to have added to my notes that the latest published opinions of Professor Babington, *i.e.* his Preface and Introductory Note on the *Rubi*, published in the *Journal of Botany* (July, 1896), which was prepared for the work which he had in hand, and did not alas! complete, shews that had he been spared to have published *The Revision of British Rubi*, he would have given to the student of the *Rubi* a work of surpassing interest and of greatest worth. No one could read (as I have been permitted to do) the MS. itself without being astonished at the fulness of knowledge of which the entire work gives noble evidence.

PROFESSOR BABINGTON ON RUBUS IN 1891.

[*Reprinted from the "Journal of Botany" for July* 1896.]

[Professor Babington, some years before his death, had nearly completed a work which he hoped to publish as a *Revision of British Rubi*. Ill health unfortunately prevented him from finishing it; and so much additional light has been thrown on the subject since he was last able to deal with it (*i.e.* in 1890 or 1891), in consequence of Dr. Focke's visits to this country and the increased activity of British students of the genus, that very much of what he left in MS. is now necessarily out of date. To so great an extent, indeed, is this the case, that I believe no British batologist who read it through could desire the publication of the work as it has been left. I have ventured, however, to recommend the printing of the completed introduction, as well for its own intrinsic value as on account of the position the Professor so long

occupied as our greatest authority and most patient teacher and guide in our study of these puzzling plants. No British botanist who realizes even partially the invaluable work done by him throughout the course of his long professorial career can, I think, fail to be both interested and instructed by this fragment of his last work for us. With Mrs. Babington's permission, I have also extracted from the body of the work the Professor's account of *R. lentiginosus* Lees. I have thought this too obscure a form to claim a place in our *Rubus* list; but I have now had the advantage of seeing Lees's authentic specimens in the Cambridge Babington Herbarium, and I find them identical with the plant described by Dr. Focke, and published only last year in Griffith's *Fl. Angl. and Carnarv.* as *R. cambricus* Focke. This latter name must now of course give place to *R. lentiginosus* Lees, published so long ago as 1849 in Steele's *Handbook*, p. 60. Dr. Focke would place it next to *R. Questierii* Lefv. and Muell.—W. Moyle Rogers.]

Preface.

The time seems to have arrived when a new treatise on the British *Rubi* is required, and as I am told that this is expected from me, I have endeavoured to prepare one. It does not supersede my *British Rubi*, the object of which was to ascertain the plants intended by British authorities up to the time (1869) of its publication. My chief object now is to endeavour to identify our plants with those of the continental authors, especially Focke and Genevier.

I now possess the means wanting to me in 1869, for the whole herbarium of Genevier has come to Cambridge, and through the kindness of Dr. Focke I possess named specimens of most of his species; many others which he could not give me, have been obtained by the liberality of English botanists, who have had their plants named by him. I feel therefore that probably the duty of preparing a new *British Rubi* has really devolved upon me. But the further I go in the study of our native plants, the clearer it becomes that we really are far from truly understanding them. As my former book was only provisional, this also cannot claim any higher position. If it helps forward those who are studying this difficult genus, my wishes are fully met.

Not only is much continued study of the plants required before we can decide what forms are to be accepted as species, what are permanent varieties, and what are only variations which may be expected to revert when propagated by seed to the more permanent forms, and also which of them may be fairly considered as the result of hybridization, but a careful study of them all in the living state must be made. Unfortunately living in a district where *Rubi* are far from abundant, it has been out of my power to do this, and therefore I may, nay must, have fallen into error in many cases. Those botanists who are more favourably situated must be looked to for making the necessary corrections. This book can only be considered as a preliminary, very far from a final, determination

of the *Rubi* to be found in Britain. I have therefore named and described many forms which seem to be well marked, but may not prove to be permanent after the requisite study has been bestowed upon them in their native places of growth.

Focke justly remarks that "Very few botanists recognize the fact that there are in Europe at the present time perhaps fifty times more apparently permanent forms of plants reproduced from seed, than we find species recorded in books. According to my view, it is therefore erroneous to take permanency from seed as a decided criterion of species."—pp. 89, 90. He also justly remarks that "it is only by means of minute descriptions that we are able to recognize with certainty the various forms of plants. Those who rely too much on single characters for the recognition of species in very short diagnoses or tabular forms, will only too often find themselves in a maze of error, for there is not one single character that can be considered as absolutely permanent and reliable."—*Focke*, p. 91.

Introductory.

After much consideration I have arrived at the conclusion that Dr. Focke's arrangement is more satisfactory than that of Genevier, for it does not separate allied plants so much. Genevier seems to have wished to use an artificial arrangement, which he probably believed to be more convenient for the readers of his book, than a more natural one. Although he has to some extent succeeded, he is far from having wholly done so. I have therefore chiefly followed Focke in this essay; merely deviating from him in those cases where our views do not quite agree.

M. Camus, in his recently published *Catalogue des plantes de France, de Suisse, et de Belgique* (1888), has made a bold attempt, with some success, to form what may be called aggregate species. I fear that we can only approach to the formation of such definite and natural collections of named forms at present. I have endeavoured so to arrange our forms, as far as they are yet determined, for there may probably be many more than we know at present, in as convenient and at the same time natural a manner as is in my power. It will be seen that the present arrangement is fundamentally the same as I have always followed, although it will be new to our botanists in some few points. I do not see how to improve it. It must be always remembered that a linear arrangement is necessarily unnatural; for the affinities of the different plants do not lie in only two, but in many directions. We must therefore not be surprised by finding plants, which are manifestly allied, placed in distinct groups, when they seem, taking all the characters into account, to be more fitly there placed, than with the others to which they shew a relationship. Of course this adds much to the difficulty of

arranging them upon anything approaching to a natural system; we are obliged to employ a linear arrangement.

Gandoger, in his remarkable *Flora Europaea*, tom. viii., divides the genus into three, and has taken much pains to reduce the number of species by arranging under each of his species those of other authors which he combines with them severally. To this attempt I have paid much attention, but have not thought it desirable to adopt the new genera into which he divides *Rubus*. Unfortunately he gives no definition of these genera, nor of the species, although he points out innumerable varieties under each of the latter.

As Dr. Focke remarks, there seems to be endless variation amongst brambles, and therefore endless forms which may and perhaps ought to be named and defined. It matters little whether we call them species or varieties, or only forms; for who can define a species, now that we have had to give up the old view that all species were intended to be permanently distinct? Now that we know how extensively, slightly varying forms are reproducible from seed, we must either accept each of these forms as an aboriginal species, or give up the theory that those first created have been kept specifically distinct until the present time. We who have been trained to hold this latter view, find it difficult to give up. But the search after truth leads us necessarily to accept the former view. Although therefore I have called many species forms in this essay, I must not be supposed to state or believe that their characters do not vary to a greater or less extent under changed circumstances of climate or locality. We find that very similar plants gathered in the north or west are often only very similar, although we give them the same names. For this reason, when we gather a plant in Devon or Cornwall, we look to M. Genevier's elaborate book for its name, when working in the east or north-east of England and Scotland, our attention is necessarily directed to the valuable descriptions of Dr. Focke, or the Scandinavian botanists; and even then we must not always expect the plants to be absolutely identical. In accepting nomenclature, I quite agree with Dr. Focke that we are not obliged to "waste our time in studying the foolish writings of every ignorant and mischievous manufacturer of names" (*Journ. Bot.* 1890, 98). I may quote another remark of the same author which seems to be very applicable to what is being attempted in botanical nomenclature. He says, "We have far too many botanical rag-collectors, who, in following out their view of priority, penetrate everywhere, dragging matters again into the light of day which had better have been left in the shades of night" (Focke, *Syn.* p. 58). It is a matter of mere convenience what plan of nomenclature we follow. Calling plants species or sub-species makes very little difference, for we have to define the plants just as much on one plan as on the other. If we are to advance our knowledge and ascertain the extent of variation of each form (and that is, I conceive, our duty

as students), we may fairly say with Lindley (*Synopsis*, ed. 1, ix.) that "our daily experience shews that excessive analysis is far preferable to excessive synthesis."

As has been remarked, it is quite apparent that there are very many more forms of plants that are continued by seed than we have been accustomed to believe; and that we must give up the favourite idea that those are distinct species which are easily and fully reproducible by seed. We must also give up the once prevalent view that a single marked character may always be depended upon as the mark of a species. After much study we learn how difficult it is to define almost any one of the recognised species, so as to include all its possible forms, and so as to separate it clearly from all possible forms of allied plants.

In this book I do not pretend to have entered into that difficult subject with the elaborate detail which has been so well carried out by Dr. Focke; but I have done so rather more than is usual with other rubologists. Neither have I attempted to form an analytical table such as that of Genevier; for I have not found even that, with all its excellence, to be a true and certain guide. And if not so, an analytical table is very liable to lead us astray. As I have said in my *Manual of British Botany*, such a Synopsis "must be used with caution, as a very slight error will totally mislead."

We are accustomed, and perhaps advisedly, to look for such distinctive marks as are afforded by the direction of the stem: (1) either quite or nearly upright; (2) more or less highly arching, but turning down at the end in the autumn so as to reach the soil, and then penetrating into it and throwing out roots, and thus forming a new centre for the growth of the following year; (3) or rising with a very small arch and then becoming prostrate, and often following the inequalities of the ground with singular exactness for a considerable distance, but in the late autumn again forming a small arch so as to present its growing point directly towards the earth and penetrating into it, and rooting there as in the former case. It often happens that these naturally prostrate plants rise to a considerable height by being supported by the neighbouring shrubs; and in such a case they treat the top of a hedge as if it was the surface of the ground, and run along it for a considerable extent; in such cases the end frequently is not able to reach the earth before being killed by the cold of winter: for this condition I have with Focke used the term *scandent*.

The form of the terminal leaflet has been justly much trusted by us. The form and character of the panicle, or rather inflorescence, and direction of the sepals require much attention.

Until recently we have in this country systematically neglected the valuable characters which appear to be afforded by the colour of the different parts of the flower, and their relative proportions and direction. We had been taught to consider such points as undeserving of attention, from being too variable to be of any use.

The colours are apparently somewhat variable, but less so than we have been led to suppose; but their proportions and direction in the several stages in the course of reproduction seem to be very constant. It has been said that the relative length of the stamens and styles is the result of dimorphism. It is doubtless so in many plants, but observation has not led rubologists to the conclusion that such is the case amongst *Rubi*. It would appear that the dehiscence of the outer ring of anthers at the time when the stigmas are ripe affords a sufficient security for cross-fertilization; the fertilization has usually taken place before the inner rows of stamens have produced any pollen; but insects continue to frequent the flowers, and convey the pollen of these later stamens to another flower, having already done this with the product of the first ripened anthers.

It is very much to be wished that collectors would make a note of the characters afforded by the flowers, as well as record the direction of the growing stem; as the want of such information renders their specimens of very much less value. I have been as much at fault as others in former years, and thus a considerable part of my collection consists of specimens scarcely determinable.

The points which seem to require especial attention are the direction of growth of the barren stem of the year, the form of its transverse section, and its armature; also when leaves are mentioned without any distinction, those found on that stem are intended. In the description of those leaves attention should be paid to the stalked or sessile state of the leaflets, especially the lower or outer pair; the form of the terminal leaflet, all parts of it being considered; and the relative length of it and its partial petiole; and the character of its toothing. The form and structure of the panicle is also very important; the form and direction at different stages of the sepals and their armature; the length and direction of the stamens relatively to the pistils and their colour, and that of the petals. Colour is usually considered by botanists to be of very little value, but it seems to be important and often quite permanent in many *Rubi*.

There is also another point concerning which I know very little, which our great masters in this study consider of value; I mean the presence or absence of hairs on the young germens. It will be seen that many of these things can only be observed on the living plant; it is therefore most important that they should be noted at the time when the specimen is collected. The want of this care on the part of collectors has caused exceeding difficulty in correctly naming many of their specimens which may be in most other respects well preserved.

It has been well remarked by Weddell (*Ann. Sci. Nat.* sér. 6, ii. 356) that, "Except in a very few cases, it is impossible to distinguish exactly one species from its neighbours by one single character alone." This is the case in all groups where the species

are numerous and closely allied, and in such cases we are deprived of the use of analytical keys such as that prepared with so much care by Genevier. In almost all cases there are intermediate forms which are not discoverable by them. Also they require the presence of much knowledge which is often absent when the key is brought into use. I refer to such points as (1) the direction of barren growing stem of the year; (2) the form and especially the colour of the petals; (3) the length and direction of the stamens; (4) the direction of the sepals both in the flower and with the fruit.

The question of nomenclature is very difficult. We have been used primarily to look to the *Rubi Germanici* as a great authority. But there a difficulty meets us. The descriptions and plates do not always seem to correspond. The two authors appear to have worked independently. The specimens named by Nees for Leighton have rather confused our ideas instead of clearing them. This is now more apparent since Banning and Focke have determined thirty-three out of the forty-two species of Weihe "with absolute certainty." The latter distinguished botanist has cultivated many of them, and described them with remarkable care in his Synopsis. He also holds, as I do, that it is not advisable, nor for the promotion of science, to "drag into the light of day obscure matters which had better have been left in the shades of night." Thus names buried in little-known tracts or neglected books had better not be hunted out to replace universally recognised names, however much it may seem to be required by the rigid application of laws of nomenclature.

The great variability of some "species" causes much trouble to the describer of plants. Many of these forms seem to retain, even from seed, marked and often striking peculiarities, and deserve distinctive names, although we can hardly call them species. Hybrids also seem to be not very uncommon, and when their parents can be discovered they are well deserving of notice. But such plants often are mistaken for species, for, owing to the way in which brambles increase by offsets, one of them may be found covering a large space, although possibly never producing ripe seeds. Such ought to be described, but doubtful isolated plants should be neglected until we can learn more about them, and that seems to be the duty of the botanist who observes them in a living state.

Rubus lentiginosus Lees. Stem "suberect," furrowed upwards, slightly hairy. Prickles conical, slightly declining from dilated compressed base, on angles. Leaves 5nate-digitate. Leaflets thin plicate, not imbricate, doubly and irregularly serrate, green, nearly glabrous, but slightly hairy on veins beneath; *terminal* 2–3 times as long as its petiole, *obovate-acuminate*, narrowed and scarcely notched below. *Branches* of rather long narrow leafy panicle *ascending*, *racemose*, its rachis and peduncles pilose, not felted, with many strong declining or deflexed prickles. *Sepals* oval, linear-pointed, slightly setose, *aciculate*, *adpressed to fruit*.

R. lentiginosus Lees in Steele, 60 (1849); *Phytol.* iv. 927.

R. affinis, β. lentiginosus Bab. *B. R.* 72.

The stems apparently do not root at end, but the plant can hardly be placed with the *Suberecti*. It seems far more nearly allied to *R. Lindleianus*, but is abnormal in respect to stem among *Rhamnifolii*. The panicle-branches have a long naked unbranched base as in *R. Lindleianus*, and the rachis has many rather strong deflexed prickles. I have no certain knowledge of the relative lengths of stamens and styles, but apparently the former exceed the latter.* This is an interesting plant as connecting the two sections, but being apparently far more allied to the plants included in *Rhamnifolii* than to *Suberecti*.

Hab. Capel Curig (*Lees*) and Aber (*Bloxam*) and Llanberis (*J. H. Lewis*). Near Plymouth, Devon (*Briggs*).

Mr. Lees says in the *Phytologist* that the flowers are in general small, and the whole plant weak, yet the stem is very prickly, and the point of the prickles are sharp and attenuated. The stem seems to be constantly suberect, but bent to the ground with the flower-shoots. Leaves sometimes 7nate. Panicle flexuose on luxuriant plants, with many alternating axillary racemes of small flowers. Peduncles and bracts covered with long spreading hairs, with a few glands (setae) on the latter. Sepals patent with flower and young fruit, then becoming loosely reflexed. Petals very small. Stamens and styles pale green.

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Charles Cardale Babington was born at Ludlow on the 23rd of November, 1808. His father, who was originally a member of the medical profession, afterwards becoming a clergyman of the Church of England, took considerable interest in botany. Whilst his son was still a schoolboy, he retired from work and settled at Bath. The subject of our present memoir entered St. John's College, Cambridge, at the age of eighteen, took his B.A. degree four years later, and his M.A. at the age of twenty-five. At first his inclinations were towards entomology, but he attended Henslow's lectures on botany, and like so many others, fell under his magnetic influence. He joined the Linnean Society in 1830, and for a short time after the death of the Rev. L. Jenyns,† was its oldest Fellow. His first botanical book was the *Flora Bathoniensis*, published in 1834. He visited Ireland in company with the late Mr. John Ball, in 1835, and gave an account of his tour in the 9th volume of the *Magazine of Natural History*. His *Primitiae Florae Sarnicae* was the result of excursions taken during two long vacations, in one of which the Rev. W. W. Newbould‡ was his companion, and was published in

* "Stamens and styles about equal."—*Focke*. † [Afterwards Blomefield].
‡ [Not Mr. Newbould. See Journal.—Ed.]

1839. In company with Professor J. H. Balfour, he visited the Outer Hebrides, in 1841, and reported on their scanty vegetation. His work was almost entirely confined to British botany, but he published in the eighteenth volume of the *Transactions of the Linnean Society*, a monograph of the Indian Polygonums, and in the 11th volume of the *Journal of the Linnean Society*, a paper on the "Flora of Iceland," giving a complete list of the Phanerogamia of the island, which he had visited during the year 1846. The first edition of his *magnum opus*, the *Manual of British Botany*, appeared in 1843. This work ran through eight editions during his life-time and was for fifty years almost universally used as a hand-book and standard of nomenclature by local botanists who made a study of critical British plants. The special feature of the work was a careful study of the difficult genera by means of the books and fasciculi of dried specimens published by the critical botanists of neighbouring continental countries. In the early editions he relied mainly upon Koch, Fries, and Reichenbach, and in the later to these were added the writings of Grenier, Godron, Boreau, Jordan, and Lange, and the Exsiccata of Reichenbach, F. Schultz, and Billot. This book brought him into frequent communication with nearly all the active collectors in different parts of Britain, and entailed upon him a mass of correspondence as referee, which occupied a large proportion of his time. The writer of the present notice remembers with feelings of gratitude the kind and patient way in which the Professor helped him in his difficulties when, between forty and fifty years ago, he was beginning the study of British botany, and was living in a small country town where there were no herbaria or books of reference. Professor Babington generally spent his long holidays in exploring some rich botanical district at home, such as the Snowdon country, Braemar, and Teesdale, and in this way made acquaintance in a living state with most of the plants with which he had to deal. Amongst the genera and sub-genera that he revised may be mentioned *Atriplex*, *Arctium*, *Fumaria*, *Batrachium*, *Cerastium*, *Dryas*, *Armeria*, *Saxifraga*, *Hieracium*, *Potamogeton*, and especially *Rubus*. He contributed about 150 papers, mainly on critical British plants, to different periodicals and societies.

In 1846 he published the first edition of his *Synopsis of British Rubi*, and a much-enlarged second edition in 1869. This was intended to have been illustrated by a series of plates drawn by Mr. J. W. Salter, but the preparation of these was stopped by Salter's death, and they were not published.

In the Ray Society, which was founded in 1844, as an enlargement of a Ray Club, which was started in 1836, he took an active interest, serving on its council and helping in the editing of some of its publications, especially the volumes devoted to the memoirs and correspondence of the great naturalist from whom the Society took its name.

He was elected a Fellow of the Royal Society in 1851, the same

year in which Huxley, Sir James Paget, and Lord Kelvin were also elected, but he never took any active part in the affairs of the Society.

In 1860 he published his *Flora of Cambridgeshire*, in which the distribution of the species through the different districts of the county is traced out very carefully, and the changes in the vegetation caused by the drainage of the fens are dwelt on.

On the death of Professor Henslow in 1861, Babington succeeded him as Professor of Botany at Cambridge, and held the chair up to the time of his death, on the 22nd of July, 1895. His lectures dealt mainly with organography and systematic botany, and were not accompanied by laboratory work. They were discontinued for several years before his death, and as years went on, the teaching of botany in the University passed into the hands of the men of a younger generation, with different ideals and different plans of work.

J. G. BAKER.

By the Ven. Archdeacon D. R. Thomas, F.S.A., *Canon of St. Asaph, Chairman of the Cambrian Archaeological Association.*

Of Professor Babington's eminence in other fields of science and of literature, or of his high personal character, it is not my purpose to write; but only of his distinction as an archaeologist, and of his long and valued services in connexion with our Cambrian Association.

It was in the year 1850 that Mr. Babington joined the Association, when it was just emerging from its tentative stage of infancy and beginning to launch out on its own responsibility. The journal, the *Archaeologia Cambrensis*, which down to that year had been the private venture of the editors, now became the property and the acknowledged organ of the Association. The first Annual Meeting he attended was the one held at Tenby in 1851, when he took part in the discussions. In 1853, at Brecon, he was elected a member of the General Committee, and in 1855, at Llandilo, he was chosen to be its Chairman, and at the same time was placed on the small Publication Committee of three. As Chairman of the Committee it was one of his duties to give at the evening meetings a *resumé* of the day's excursion, and to point out the chief objects of interest visited, with their bearing on general, as well as local, archaeology. The purpose of the *resumé* was twofold; to enable those who had been unable to accompany the excursions to follow their proceedings, and to elicit a fuller discussion of the more important points than was possible in the limited time available on the spot. Such a duty required not only a wide and accurate knowledge of archaeology, but also a thoughtful arrangement and a clear and ready expression; and so efficiently did he discharge this duty that for thirty years in

succession he was re-elected to the position. To mark still further their appreciation of his services the Association chose him to be their President for the year 1881, when it met at Church Stretton, a compliment which he acknowledged in his address to be peculiarly gratifying, not only because of the special interest he felt in the botany and archaeology of the district, but also because it was in his native county of Salop.* Under the pressure, however, of failing health, he was reluctantly compelled in 1885 to resign the chairmanship which he had filled so long and well, and the Annual Report of that year bore testimony to the onerous duties which he had discharged with unfailing courtesy and with a breadth of knowledge in archaeological subjects which had been of great service to the Association; and when finally he passed to his rest in July, 1895, a resolution was carried in the following month, at the Annual Meeting held at Launceston, expressive of the loss the Association had felt in the death of one of its most learned members, and of its sympathy with Mrs. Babington in her affliction.

On looking back over the records of the discussions at the Annual Meetings, and the witness they bear to his knowledge of general archaeology, we find that the phase which appeared to have most attraction for him was that of the ancient defences and fortifications of the country, and it was on these that almost all his articles in the Journal turned. Indeed, this line was foreshadowed in his article on "Ancient Cambridgeshire," in the publications of the Cambridge Antiquarian Society, reviewed in the *Archaeologia Cambrensis*, 1856, and it was wound up in his presidential address at Church Stretton on "The Classification of the Camps and Primeval Fortifications of Wales."

The list of his contributions to the Journal comprise :—in

1857. "Gaervawr, and a supposed Roman Road near Welshpool."
1858. "The Firbolgic Forts in the South Isles of Arran, Ireland."
1861. "Ancient Fortifications near the Mouth of the Valley of Llanberis, Carnarvonshire."
1862. "The Kjökkenmöddings of Denmark."
1863. "The Hospital of St. Lawrence de Ponteboy, Bodmin."
1865. "Cyclopean Walls near Llanberis."
1876. "An Ancient Fort near St. Davids."
1879. "On the supposed Birth of Edward II. in the Eagle Tower of Carnarvon Castle."
1880. "On several Antiquities in North Wales."
1882. "On the Circular Chapel in Ludlow Castle."

* He was born at Ludlow, and his last contribution to the journal was on "The Circular Chapel in Ludlow Castle."

Professor Babington on the Sunday Opening of the Botanic Garden, 1881—2.

On the 5th of April, 1881, seven Syndics of the Botanic Garden Syndicate reported to the Senate, enclosing two Memorials, one (*a*) very numerously signed, representing "that it would be a great boon to Members of the Senate if they could be permitted to visit the Botanic Garden with their friends on Sunday afternoons during the months of May, June, July, August, and September." (*b*) as follows (*Reporter*, 26th April, 1881, pp. 496—498):

> We, the undersigned Resident Members of the Senate, having learned that a Memorial has been presented to the Vice-Chancellor in favour of opening the Botanic Garden to Members of the Senate and their friends on the afternoons of Sundays during the summer months, beg leave hereby to express our objection to such opening of the Garden:
>
J. Barton.	G. Phillips.	A. W. W. Steel.
E. B. Cowell.	C. K. Robinson.	A. W. Streane.
J. T. Lang.	H. E. Savage.	H. Trotter.
F. C. Marshall.	C. E. Searle.	B. F. Westcott.
H. C. G. Moule.	R. Sinker.	

On the 28th of April the Report was discussed in the Arts' School (*Reporter*, 3rd May, pp. 519—521). The Vice-Chancellor said that he had received a memorial signed by six out of the eight men employed in the gardens. The memorial is as follows:

> Having learned from the public prints that an application is to be made to the Syndicate to open the Botanic Garden during some part of Sunday, we, the men employed in the Garden, beg most respectfully to represent that it would cause much additional work, and that we have always understood that Sunday is intended to be a day of rest from all but absolutely necessary work. We therefore venture to hope that we shall not be required to work on that day in opposition to conscientious opinions. We are quite ready to attend to the necessary duties of the Garden, but not to work on Sunday for the pleasure of others who desire to walk there on that day.

Professor Babington had not signed the report. . . . He quite agreed with all that had been said against the report. He asserted that it would be impossible to do without additional attendance; he need not say why, but he was convinced of it. There must be some one to see that the right persons and not the wrong were admitted to the Garden. For himself, he felt it would be absolutely wrong to give additional employment on Sunday for his own gratification. The number of persons for whom the proposed change would be useful was exceedingly small. . . . . He objected entirely to anything which would interfere with the holiday which labouring men should have on Sunday.

The following memorandum is printed from Professor Babington's manuscript:

"As it is my intention to oppose the Grace concerning the Botanic Garden which is to be offered to the Senate on May 19, I venture to place before the members of the University some of the reasons which lead me to do so.

"It is proposed to open the Garden on Sundays, but it must be manifest that that can be a real advantage or even convenience to very few. It is only those who live near to the Garden who can suppose it to be important to them; and of them very few of the class contemplated are not provided with private gardens, well fitted for quiet Sunday recreation; and still fewer would probably wish to give trouble and discomfort to the persons employed in the Garden by requiring their presence on that day, or knowingly ask work from those who have scruples as to its lawfulness. It has been well remarked that "it is impossible to change the manner of spending the day of national rest without seriously affecting the comfort of all who live by labour."

"The following questions must be answered in the affirmative before we have any right to require work on the Sunday—

"1. Are we justified in sanctioning, far less requiring, any unnecessary work on the Lord's Day, which will deprive others of the rest for which it was instituted?

"2. Have we a right to bribe any man by extra wages, or in any other way, to do unnecessary work on that day?

"3. Is our own fancied comfort or convenience any excuse for making our dependents work unnecessarily on that day?

"In my opinion absolutely necessary work is alone allowable: such as the preservation of a Garden and its contents from injury: not the enabling people to walk and take their pleasure in it. The proposed plan excludes the undergraduates who might wish (unadvisedly in my opinion) to use the Garden as a place of study on Sunday. They have six days in the week for study, and could not advantageously have the seventh added to them.

"Also, as I have already said, those who wish to use the Botanic Garden on a Sunday have mostly gardens of their own, even though (as in my case) small ones, or they live at such a distance from the Garden, and are so much nearer to the grounds of the colleges, as to render the addition of this Garden to the places open to them quite unnecessary. I must be allowed, therefore, to be rather surprised by seeing some of the names appended to the memorial to the Vice-Chancellor, unless it has been done with a view to the opening of all museums and gardens on that day.

"But I venture to think that the supporters of this proposition have somewhat overlooked the real use of a Botanic Garden, when they look at it from the point of view of a place of recreation, and propose to use it, and the funds by which it is supported, for the purpose of increasing their own comfort or pleasure. It will be found on reference to the original documents that the Garden was given and endowed by Dr. Walker for scientific purposes alone: for the growing of plants to be used in the study of their "properties and uses for the benefit of mankind" (*Endowments of University*, 250), and not at all for the recreation of the members of the University;

and that all persons are expressly excluded from it on Sundays (*Ib.* 251).

"I think, therefore, that I may reasonably ask the members of the Senate not to pass the proposed Grace, by which the character of the Garden would be totally changed from the use for which it was designed by its founder, and the workmen employed in contravention of the Divine and human laws regulating the Lord's Day."

The amended report of the seven Syndics, dated 7th May, 1881, may be seen in the *Reporter* for 10th May, pp. 531—2. On the 19th May, the report as amended, was confirmed by 144 votes against 129 (*Reporter*, 29th May, p. 589).

On the 6th of May, 1882, seven Syndics signed a report recommending the renewal for 1882 of the former grace (*Reporter*, 9th of May, 1882, p. 529). On the 10th of May (*Ibid.* 16th of May, 1882, pp. 558—9), this report was discussed in the Arts' School.

The Vice-Chancellor, Dr. Porter, Master of Peterhouse, explained that he signed the report only because he thought it right that an opportunity should be afforded to the Senate of considering it. The recommendations of the present report were almost identical with those of last year, the chief change being the omission of the recommendation that the services of a policeman be obtained. This change was due to the fact that the Watch Committee had last year declined to supply the services of a policeman, thinking it undesirable to increase the labours of the police on Sundays. He strongly took the same view, and thought it very undesirable that any unnecessary labour should be placed upon any official on Sundays. Three members of the Syndicate had not signed, viz. the Master of Clare, Dr. Paget, and the Professor of Botany. Two other members of the Syndicate had not been present at the meeting, and had not had the report sent to them.

Dr. Paget had no objection to the report being brought forward, but he could not recommend as a member of the Syndicate that the proposals be accepted. He had not a strong opinion on the subject, but on the whole he thought the Garden had better not be opened on Sunday.

Professor Babington thought it highly undesirable that either the Curator or his deputy should be required to be in his house or in the Gardens on Sunday afternoon for the convenience of Members of the Senate. It was a Garden for scientific purposes, and there were six days for those purposes, and could be no necessity for a seventh. He did not wish to see the point of the wedge inserted by increasing work on Sunday, and thus encouraging those who were in favour of opening museums and other places of public resort on that day.

On the 25th of May, 1882, the report was confirmed, placet 87, non-placet 77 (*Reporter*, 30th of May, p. 623).

On the 10th of May, 1883, seven Syndics again recommended the opening of the Garden for the summer months (*Ibid.* 15th of May, 1883), but the question was not brought before the Senate.

Endowments of the University, p. 529: "The Act declares the New Botanic Garden to be under the direction, government, management, and superintendence of the same persons, and subject to the same orders and regulations, and with all such powers and provisions for the maintenance, support, and conduct thereof, as the Old Garden."

[The following poem is taken from a privately printed volume, "A Wreath of Wind-Flowers," by Thomas Hughes Corry (Belfast, 1882) pp. 56, 57. See above pp. xxiv, xxxiii.]

A DIRGE.

"We thought he slept."

Sleep! is this sleep, this rest so deep, unbroken,
Which soothes that burning brow?
Nay, this is death; God's everlasting token
Of peace and comfort now.

Yes, he has passed the dim and shadowy portal
That bounds our earthly home,
And entered thro' those gates of pearl immortal,
Beneath Heaven's golden dome.

Life—life with us, so busy, eager, buoyant,
Has passed away and fled;
But tho' its impulse now is stilled and dormant,
His spirit is not dead.

Yet while we live, he still will move around us
Till Time shall be no more,
Tho' his triumphant glory would confound us,
Should it its radiance pour.

His place is set within the throng of blessèd,
He sees his Saviour's face,
And knows his name by Christ our Lord confessèd
Before the throne of grace.

* * * * *

But God, who is Himself the Strength and Giver
Of all our life and breath,
Hath perfect power His children to deliver
From the cold seal of death.

Grieve, grieve no more, he is not dead, but living
In realms that need no sun,
But God's own light a lustrous splendour giving;
His work on earth was done.

JOURNAL.

The student of nature, who, without surrendering one particle of physical truth, or admitting any restriction on the freedom of scientific investigation, is yet able to withstand the most dangerous temptation which besets his favourite pursuits—the tendency to a mechanical philosophy, or the resting in second causes—and who, resigning himself to the consciousness of his limited faculties and imperfect knowledge, clings to the centre of his spiritual being, and finds a secure anchorage in the love of his Heavenly Father, as revealed in the Gospel of Jesus Christ—such a one exhibits one of the noblest examples of Christian humility, wisdom, and self-control, that in these days it is possible to witness.

CONNOP THIRLWALL, *Charge*, Oct. 1863, p. 36.

CHARLES CARDALE BABINGTON,

ÆT. 17

JOURNAL.

I, CHARLES CARDALE BABINGTON, was born at Ludlow in Shropshire on the 23rd day of November, 1808, as may be seen by the following note in the handwriting of my father, who was the son of Thomas Babington, of Rothley Temple in Leicestershire. (*See* Babington pedigree, and the History of that County.) My mother was the daughter of John Whitter, Esq., of Bradninch in the County of Devon. They were married at that place on the 15th of August, 1803. My father lived in a house near to the Castle Gate at Ludlow, the first house on the right hand side looking from the gate. Mr. Charles Rogers, my mother's uncle, lived in the house exactly opposite, before he purchased and built the house at Stanage in Radnorshire.

NOTE in the handwriting of Dr. Joseph Babington: "Charles Cardale Babington, son of me Joseph and Catherine my wife, was born on the twenty-third day of November in the year of our Lord one thousand eight hundred and eight, about twenty minutes after twelve in the day, and was baptized by the Rev. Mr. Baugh, now Rector of Ludlow, on this eighteenth day of January, 1809, being now two months old. He was christened March 2nd, 1809, having as sponsors, Rev. Thomas Gisborne, of Yoxall Lodge, Staffordshire, Charles Rogers, Esq., of Stanage, Mrs. Whitter, his grandmother, and Mrs. F. Cardale, of Cossington, Leicestershire. He was vaccinated by Mr. Adams, Surgeon, Ludlow, on this 27th of March, 1809, at ten o'clock in the morning, on the left arm; the disease went through its regular course very properly—the scab fell off April 25th. He had the measles in July, 1822.

"Frederick John Babington, son of Joseph and Catherine Babington, was born Feb. 20th, 1810." (He died within the year following.)

My father left Ludlow when I was not more than four years of age, and lived for about two years at Spaw-Place, Humberston Gate, Leicester. He having entered into Holy Orders, we went to live at Hawksworth in Nottinghamshire, in the summer of 1814.

I went to school to Mr. Price, of Needwood Forest Church, in the summer of 1817, and remained with him till 1819.

NOTE in his father's handwriting: "Charles Cardale Babington went to Mr. Price for private tuition, at Needwood Parsonage, Staffordshire, on the 28th of July, 1817, aged eight years and a half."

"He soon after composed the following lines extemporary, on the situation of Mr. Price's residence:

"I'm going up the mountains high,
And on the top there is a plain,
With ridges far and nigh;
And on that plain there is a house
And near to it a place to douse."

(In my mother's handwriting, C.C.B.)

Upon leaving Mr. Price's, I went to Dr. Knight's school, at South Wraxhall Hall, Wilts. This was rather a large school, consisting of more than forty boys. My father had removed to Broughton Gifford, Wilts., in June, 1818. At Dr. Knight's school I became acquainted with S. S. Brown, the son of J. T. Brown, of Winifred House, Bath. About this time my father taught me the elements of Botany from Lees' "Introduction," and Withering's "Arrangement."

In 1821 I was removed from Wraxhall Hall and sent to the Charterhouse, of which Dr. Russell was then the Headmaster. I was in the house of Mr. Lloyd, which was just outside the gate of the Charterhouse, in the square. During the time that I remained at that school (until Aug. 1823), I used often to spend my Sundays at Mr. Brown's at Tooting, or at my cousin T. Babington's at Hampstead. The school at that time consisted of about 480 boys. In the summer of 1822 I had the whooping cough at school.

NOTE by Dr. Joseph Babington: "The following year he had the whooping cough at school. He has also had the chicken pox and scarlatina, 1823. At the age of fifteen he was five feet seven inches in height."

Not getting on well with my learning, I was removed at my own wish from the Charterhouse, and went to Mr. W. Hutchins' school at 33, Grosvenor Place, Bath. My father and mother had removed to 8, Hanover Street, Bath, in Sept. 1822, he being obliged to give up clerical duties from the loss of the use of his legs. I remained with Mr. Hutchins until I went to college, and got on pretty well with my studies under him. At this school my acquaintance commenced with Thos. Fortune, Heaviside, now Canon of Norwich, and several others. During the years that I was at that school, as a day scholar, I formed an intimate acquaintance with the neighbourhood of Bath, and began to study its botany, and to collect plants and insects. In the month of July 1825 the thermometer registered (at the back of the house in Hanover Street) 89° on the 17th, 87° on the 18th, and on the same day it stood at 92° at Walcote Parade.

1825. *Nov.* 2. I ordered the first and second volumes of Smith's "English Flora" of Collings the bookseller, of Saville Row, Bath, and received them on the 7th together with the third volume.

Nov. 4. I first began to study Greek plays, "Philoctetes" of Sophocles.

Nov. 13. Saw Mr. Wilberforce for the first time. He called upon my father.

Nov. 19. I dined with Mr. Wilberforce at 1, Queen Square.

1826. *April* 5. Sat for a likeness to be taken by Mrs. Hoare in pencil. She also took pencil sketches of my father and mother (which I still have, 1873).

April 7. Heard of the death of my uncle, the Rev. F. Bedford.

April 28. Dined with Mr. Wilberforce.

May 27. Called upon Mr. Wilberforce, when he gave me a copy of his "Practical View."

NOTE.—On the first page of this volume is the following inscription: "To Mr. Charles Babington, the son of his old friend the Rev. Dr. Babington, this book is given when he is about to enter into life, as a pledge of friendly regard by WILLIAM WILBERFORCE.—BATH, *May 26th*, 1826."

Oct. 9. Went to London from Bath by coach, which took twelve and a half hours. Went to my cousin G. G. Babington's house, 26, Golden Square.

Oct. 10. Had much difficulty in getting a place to Cambridge; called at six places before doing so. Went by the "Times" coach at 3.30 p.m., and reached the "Eagle" at Cambridge at 9.30; slept at the "Eagle."

Oct. 11. At 11 a.m. called upon Mr. Hornbuckle, the Tutor of St. John's College. He gave me rooms in the "Labyrinth," but in the afternoon removed me to the Second Court (third door to left, door to right, ground floor). My bedmaker, Mrs. Hopper, is the widow of the gyp to my father.

Oct. 14. Called with my father's letter on the Master, Dr. Wood. N.B.—Dr. Wood always comes out at the north-west corner of the second court at 7.30 a.m. and returns at 7.50. Men keeping in College have to keep nine chapels, others seven in the week. Gwatkin recommended me to read with Maddy as a private tutor, and I did so.

Dec. 4. About this time Dr. Spurzheim lectured at Cambridge, and a Phrenological Society was formed, of which I was a member.

Dec. 15. *My father died this day* at 8, Hanover Street, Bath, but I did not know of it until some days afterwards, or even of his illness.

Dec. 16. Went by coach to Oxford in thirteen hours.

Dec. 18. Went to Bath, slept that night at the York House.

Dec. 19. Went to Broughton Gifford with the funeral.

1827. *Feb.* 3. To Cambridge by "Telegraph" coach.

March 27. Attended twentieth Divinity Lecture, and got a certificate from the Professor, Hollingworth.

NOTE.—"Cambridge, March 27th, 1827. Charles Cardale Babington, of St. John's College, has attended the Divinity Lectures. J. B. Hollingworth, D.D., Norrisian Professor."

April 30. Went to Professor Henslow's first lecture on Botany.

May 2. Conversed with him after the botanical lecture, and was asked to his house. Put an end to the Phrenological Society this evening. Assisted Professor Henslow in putting his things in order, before and after the lectures.

June 9. To Southampton to join my mother and aunt Bedford.

June 13. Went by steamer to the Isle of Wight; landed at Cowes, and went by coach to Newport, visited Carisbrook Castle. Left my mother and aunt and walked alone by Pedford, Godshill, Appledurcombe Park, to Steephill and St. Lawrence, returned by Whitwell to Newport. Returned to Southampton next day.

June 19. Botanized about Netley Abbey.

June 22. We removed to Ryde, going in a sailing packet.

June 23. Walked to St. Helens, crossed the mouth of Brading Haven, to Culver Cliffs (*Ophrys apifera*). Returned by Yaverland and Brading.

July 3. Went by Newchurch to Ventnor, then along the top of the cliffs to Sandrock hotel and Blackgang Chine. Slept at hotel.

July 4. Returned to Ryde, Bonchurch footpath through east end, Shanklin and Brading.

(No Notes kept between Aug. 26th and the following.)

1830. *Took my B.A. Degree in January.*

April 23. Lodgings at Mrs. Tomlinson's, Fitzwilliam Street.

May 24. Elected a Fellow of the Philosophical Society.

May 26. Paid a life subscription as a F.C.P.S.

July 3. To Oxford, Mitre hotel.—*July* 4. To Bath.

July 5. To Birmingham and North Wales.

Mallet (afterwards Fellow of Pembroke), having agreed to go as tutor with Hockin and Fleming to North Wales, I determined to join them for a time in order to see the country.

July 5. Left Bath by Birmingham coach, where we arrived at 7 p.m. Left it for Shrewsbury at 10 p.m. and arrived there at 5 a.m. Took coach for Bangor in half-an-hour. Country flat until we arrived at the river Dee, when it began to heighten, and continued rising all the way to Bangor. After following the vale of the Dee up the river for some way, we passed over into the vale of Conway, in which the mountains rise to a great elevation on both sides, and are mostly covered with wood. This we descended as far as Bettws-y-Coed, near which we passed over a beautiful iron bridge of one arch, and saw the waterfall of Rhaiadr-y-Wenol, close to which the road runs, and soon arrived at Capel Curig, having been, since we left Bettws, ascending a branch of the Conway, which we followed as far as its source in Llyn Ogwen, from which lake the river Ogwen

also runs at the opposite end. The road then led us along a ledge on the side of the mountain called Carnedd Davidd, by a waterfall, into the valley of Nant Francon, which we followed by the slate quarries to Bangor. (The quarries are on the side of a mountain, which at a distance looks as if it were formed of heaps of loose slates, and is of great elevation; the slates are brought to Bangor by a railway.) As soon as we got out of the valley, and had left the great mountains behind us, we obtained a fine view of the Bay of Beaumaris, bounded on one side by Priestholme, or Ceriol's Isle, and on the other by the Great Orme's Head, which projecting into the sea, and being joined to the land by a low tract of country, looked like an island. Nearer at hand we saw Penmaenmawr, presenting its precipitous face to the sea, round which the road from Bangor to Conway winds, the isle of Anglesea, and town of Beaumaris with its Castle, the city of Bangor, and the Menai Straits. On arriving at Bangor, we dined with the rest of the passengers, and after they were gone walked into the inn (Penrhyn Arms) garden, which overhangs the sea, and found on a rocky bank in it the *Luzula sylvatica* in great beauty. After amusing ourselves for some time there, we took a car and went over the Menai Bridge and along the beautiful road made by the late Lord Buckley, to Beaumaris, where we put up at the Bull, then started to hunt for lodgings, (in which we could not suit ourselves), and inspected the Castle, which is very perfect and well worth examination. The next day (July 7) we determined on walking to Carnarvon, a distance of ten-and-a-half miles, which would have been very pleasant had it not rained the last seven miles, so that we were glad to arrive at the Uxbridge Arms, Carnarvon, to dinner. Went out in the evening and hired lodgings, myself for no fixed time, my friends for three months, to read.

July 8. Having obtained lodgings we took a large sailing boat for ten shillings to carry us to Beaumaris and bring us and our boxes etc. back, but after we had had a beautiful sail through the straits, and passed under the Menai Bridge, and taken our things on board at Beaumaris and Bangor, we found that the wind was so high that we should not be able to get back by water and therefore got out and walked, and left the boat to bring our things as soon as it could get (which it did at the next tide). We found on the way *Lepidium Smithii*, *Sagina apetala*, etc.

July 9. Walked about the town botanizing, etc. Dined at Mallet's lodgings, where we shall dine every day.

July 11. *Sunday.* Went to the church, which is a neat one, having one of its sides formed of part of the town wall, and its tower being a round stunted one belonging originally to the same. The bell is in a little open arch on the top of the tower. Rained most of the day. Thermometer 61°.

July 12. Found *Papaver somniferum*, *Epilobium angustifolium*, and variety of *Viola tricolor*, with blue flowers, in a corn field near the town, but on the other side of the river, where there are no houses, or I should have thought them cultivated.

July 13. Attempted to find the road to the mountains near Llanberis, but by taking what we supposed would be a short cut, arrived at the river having only a foot bridge over it, with a gate in the middle well guarded with spikes. The bridge was formed of two planks parallel to each other, and bent into an elliptical arch by being fastened tight to the rock on each side without any support in the middle. Being stopped by this, we had to return nearly three quarters-of-a-mile, and then continued the road we were in before. After having crossed the river by a stone bridge further up, we were foolish enough to take another short cut which appeared to lead to the mountains, which we followed for about two miles, and then stopped to examine a bog in which we found nothing worth having, and then turned back, not having time to go farther. On our road back we met with *Scleranthus annuus* and *Alchemilla vulgaris*, the first in plenty in one place, but only one specimen of the latter. The finest day that we have had this summer.

July 15. Wind continued very high so that we did not go far, but only obtained a few plants and insects near at hand.

July 19. Walked to the Llanberis lakes and saw Dolbadarn Castle; the view from the top amply repaid the danger of the ascent. The castle supposed to have been in existence in the sixth century, as it is mentioned as occupied by Maelgwm Gwynedd in his contention with the Saxons.

July 31. Started with Mallet for Llanberis, and on arriving at the bottom of the lakes, took a boat which carried us to the top of the first lake, from which, after examining the river between the lakes, we walked up the road to the village of Llanberis, the road to which is only passable for horses; it passes under the enormous precipices of Snowdon, near a copper mine. We then returned to the Dolbadarn inn for dinner, just before which, Mr. C. Wordsworth, of Trinity College, came in, and not being able to find either a room to sit down in or anything for dinner, he asked and obtained permission to join our party. After dinner we went to see a waterfall about half-a-mile from the inn, which is worth any person's while to inspect, although small in quantity of water. The name of the waterfall is Cannent Mawr, formed by a stream called Cwm Brwynog, height sixty feet. After inspecting the waterfall, ascending a mountain, and getting into a bog, we returned to the inn, intending to ascend Snowdon the next morning.

Aug. 1. Very wet, unable to ascend Snowdon.

Aug. 7. Went out to catch water insects, of which I obtained a good many.

Aug. 13. Started to go to the top of Moel Elion, a high mountain on the left of the road to Beddgelert, which we reached after a good deal of very uninteresting climbing, but were repaid by the view from the top.

Aug. 15. Started on a walk towards the mountains on the Beddgelert road, and turned off to Mynydd Mawr, which is nearly opposite to Moel Elion on the right of the road. All one side of it consists of a precipice, up the side of which we ascended, where I found the first mountain Saxifrage that I had ever seen growing (*Saxifraga stellaris*); and on another part of the same side of the mountain we found *Cryptogramma crispa* in great plenty on our way home. Also saw *Callitriche autumnalis* in great plenty in the river which runs out of Llyn Cwellyn. Found *Carabus glabratus* on this mountain running on the grass, never under stones.

Aug. 19. *Callitriche pedunculata* in swamp near Newborough, Anglesea.

Aug. 28. Went out to catch water insects, and obtained a good number, but got very wet in doing so.

Aug. 29. Went to Mynydd Mawr to look for insects, but found no land ones, and only some water ones; got quite wet through by a storm on the top of the mountain.

Aug. 30. Walked out with Mallet, and got geological specimens for England.

Aug. 31. Started on foot to ascend Snowdon; we took no guide, and found our way very well. Obtained a large number of plants in the rocks near the mouth of the copper mine. It was unfortunately very cloudy, so that we lost the view from the top. Returned to Dolbadarn inn, where I slept.

Sept. 1. Started at a quarter-past eight in the morning, and after ascending part of Glydr-y-Vawr, passed through Llanberis Pass, at the head of which I ascended another mountain on the left. Descended into Nant Gwynant, which I followed to Beddgelert, where I dined, and afterwards walked back to Carnarvon. Whilst my dinner was cooking, I walked to Pont Aberglasllyn, which is about a mile-and-a-half from Beddgelert. Total distance in day about thirty-two miles.

Sept. 4. Started for Llanberis and Snowdon, at the latter of which we (Mallet and I) arrived about 2 p.m. After getting all the plants we could from the face of the precipice in which the copper mine is, we ascended to the top, and re-visited both the tops, finding it happily pretty clear, although, before we had been at the top for any length of time, the clouds collected around the mountain, but quite under our feet, so that we saw a complete sea of clouds, which was the most beautiful sight that I ever beheld. After enjoying the sight for some time, we saw a party of Cambridge men, who were stopping at Beaumaris, coming up, when we started

on the descent towards Beddgelert, which led us along a ridge not so wide as the length of my stick; the path followed this narrow ridge for I should suppose about half-a-mile, when it descended one side of it into a very boggy valley, in which after following the path for a good way we quite lost all trace of it, and had a great deal of trouble to find our way to the road, which we reached at about three miles from Beddgelert.

Sept. 10. Left Carnarvon, but did not arrive at Bangor in time for the Shrewsbury coach.

Sept. 11. Started at 7 a.m. for Salop. At Capel Curig a gentleman got upon the coach to go as far as Bettws-y-Coed, who, when we stopped for breakfast at a house not far beyond Capel Curig, said he should walk on to Rhaiadr-y-Wenol. I obtained a crust of bread and some cheese, and accompanied him, and was well repaid for my trouble by the great beauty of the fall. . . . . On a high hill near Llangollen is situated the ruin of Dinas Bran Castle, and in a fine valley near it Valle Crucis Abbey, and the very small remains of the house of Owen Glyndwyr.

Sept. 12. Arrived at Ludlow, and took up my quarters at my aunt Rogers'.

Sept. 13. Went with Mrs. Rogers to Stanage Park, through Leinterdine and Brampton Brian, near which last place on the right is situated the hill on which the camp of Caractacus was situated before the last battle with the Romans, and on the left the hill where the Roman camp was situated; both camps are I am told very easily to be traced. (N.B.—The above is doubted by some antiquaries, but believed by most.)

Sept. 16. At Ludlow, saw Castle, etc.

Sept. 17. Left Ludlow at 2.30 p.m. Arrived Hereford at 7.

Sept. 19. To Exeter, where my mother was ill.

Oct. 15. To Cambridge.

Nov. 2. Paid life composition as F.L.S.

1831. *Jan.* 29. Went into College, New Court C, left hand top rooms.

May 19. Henslow's party to Gamlingay.

May 22. Henslow's party to Wood Ditton. Went to Sawtry, Hunts, to entomologize, and returned to Cambridge on the 29th.

1832. *June* 25. Started from Bath by the Cheltenham mail, passed Tetbury and Cirencester, at which they had just been renewing the church porch in the same style as the original part; it has the town hall over it. . . . At about two miles from Cheltenham is a country church having a very fine circular window, but, as I heard, very much injured by having been partly filled with modern painted glass.

June 26. Left Cheltenham at quarter before 6 in the morning by a coach called "L'Hirondelle," which runs as far as Liverpool in fourteen hours. It goes through Kidderminster, where we breakfasted, from thence to Bridgnorth, which is built on the top, and under a very steep hill, of new red sandstone, having houses cut out of the rock, with chimneys built up the side of it, so as to take the smoke out of the way. . . . Arrived at Shrewsbury, and was met at the inn by Holmes, who had just arrived by the Bangor mail from London, and Leighton, who lives near to Shrewsbury.

June 27. Left Shrewsbury at quarter before 6 a.m. . . . At about a mile from Oswestry we passed within about 200 yards of a fine fortification, called Hen Dinas (the old city), and anciently Caer ogyrfan, from a hero of that name in the time of Arthur; it is worth seeing. . . . The next point worthy of notice is the first view of Snowdon, from the vicinity of Cernioge inn; for some miles of the road in this part the whole of the Snowdonian range is seen to very great advantage, if the day is fine. A short distance before arriving at Bettws-y-Coed, a fine waterfall is passed on the left-hand side of the road, called Rhaiadr-y-Machno; it is not seen well from the road. At Bettws is left on the right Pont-y-Pair, a curious bridge over the river Llugwy, a short distance up which, and close to the road, the waterfall called Rhaiadr-y-Wenol is situated. The next stage is Capel Curig. . . . The road now continues through the mountains in a very barren but grand country, close on the bank of Llyn Ogwen, and having the lofty and peculiar mountain Trevaen on the left; it is then carried along the side of Carnedd Davidd till within a few miles of Bangor.

June 28. Walked to see the slate quarries at Dolawen, near Llyn Merig, the property of Mr. Pennant, of Penrhyn Castle. They are now cut into the very heart of the mountain, and employ more than 1600 men. The slates are conveyed by a railroad to Port Penrhyn, near Bangor, from which place they are shipped, twelve shiploads having this year gone from them to America.

June 29. Went to Carnarvon by the coach at nine o'clock in the morning, and on our arrival there started to walk to Llanberis to see if we could find accommodation for a few days. Having done so at the "Vaynol Arms," kept by R. Closs (at the rate of one shilling a meal and one shilling a bed), we went back to Carnarvon. On our arrival at the latter place we found Harold Browne (of Emmanuel College), who was going to stop the summer in that part of the country with two pupils, one of whom, Jacob, of Emmanuel College, arrived soon after.

June 30. After breakfasting with Harold Browne and Jacob, they started to walk to Tremadoc to see if they could get accommodation to stay there, and we took a car to Llanberis. We walked part of the way up Snowdon and found *Saxifraga hypnoïdes*, *Sedum*

Rhodiola, *Cryptogramma crispa*, *Viola palustris*, etc. After dinner walked a short distance up the Llanberis Pass, or Cwmglas, as it is called in Welsh.

July 2. Started at a little after nine o'clock to ascend the top of Snowdon, went a short distance on the road to Dolbadarn castle, and then ascended a steep grassy slope extending to the top of the range of hills between the upper lake of Llanberis (or Lyn Peris) and Cwm Brwynog, then turning to the left followed the road to the copper mine for some distance, then ascending the steep bank called Llechwedd-y-Rè we soon arrived at the spring near the place called Bwlch Glas Gap. This is the place at which the horses of those who ride up are left. The ascent from this point is steep and rocky and about half-a-mile. Directly under the top (Y-Wyddfa) is the precipice called Clogwyn-y-Garnedd, at the foot of which is seen the little lake Ffynnon las, and beyond that, connected with it by a river, Llyn Llydaw. We continued for some time at or near the top, collecting in Clogwyn-y-Garnedd. We found, amongst others, *Saxifraga nivalis*, *S. caespitosa* and *S. hypnoïdes*, *Cerastium latifolium*, *Arenaria verna*, *Carex rigida*, etc. We then descended by the same road as that of our ascent. Holmes found for me in Clogwyn-y-Garnedd *Chrysom. cerealis* not far from the top; I also observed *Atopa cervina* in plenty on the very top.

July 4. Crossed the river near the aqueduct and found *Montia fontana β major* (?) and afterwards, on a steep rocky bank rather farther up the pass than the church, but on the opposite side of the river, the *Trollius Europaeus*. We then returned home, as it began to rain hard. Afterwards we went out, and I got a few water-beetles.

July 5. Started at half-past nine o'clock and ascended the same way as before towards Snowdon, but instead of going to the top, went to the mine in Clogwyn-ddû'r-arddû; found there *Cystopteris fragilis*, *Asplenium viride*, *Thalictrum alpinum*, *Arenaria verna*, *Saxifraga hypnoïdes*, etc.; then went down to the lake (Llyn-ddû'r-arddû), once black, now green from the effects of the copper, and ascended towards the more perpendicular part of the rock just over the lake, worked it well all the way to the end and found *Trollius Europaeus*, *Arabis petraea*, *Carex speirostachya*, *Thalictrum minus*, *Saxifraga caespitosa*, etc., returned along the side of the valley, and round by Dolbadarn new inn.

July 7. Went in the morning to see Mr. A. Smith's slate quarries at Yr-Allt-Ddû and Clogwyn-y-gifran, situated on the side of Glydr-y-Vawr at a great elevation above the north-east side of the upper Llanberis lake; from thence there is a railway to Aber-y-Pwll, about the centre of the Menai Straits, where the slates are shipped. The lower part of the quarry is

much below the level of the railway, and the slates are brought up to it by two long steep inclined planes on which large iron vessels are let down full of water, which pull up the slate wagons; when they get to the bottom they are emptied by a valve and then drawn up again with great ease. There is a cistern of water supplied from a small mountain stream placed over the top of the upper of the two planes for the purpose of filling the vessels. The upper part of the quarry communicates with the railway by three planes, one above the other, on which the descending waggons draw up the empty ones. Many other parts of the excavations are far below the level of the rail, and have waterworks for the purpose of drawing up the slate, the water from one wheel flowing on and working another. On our way down from the quarry we found near the lower end of the little valley in which it is situated *Polemonium caeruleum.* Dined at three o'clock. Started at four o'clock and walked to Carnarvon, where we stayed the night.

July 8. *Sunday.* Went to church at Carnarvon at 11 o'clock, and walked back to Llanberis afterwards. It was a most stormy evening, with very hard rain and high wind. (N.B.—English service every Sunday morning at Carnarvon.)

July 10. Started earlier than usual (about half-past 8) to go to Cwm Idwal. We went by direction up the stream opposite the inn until we came to the place where two streams and an empty channel meet, then turned to the right up the mountain, and on our arrival at the top kept rather to the left between the one which we ascended and the next (*i.e.* due east), and soon arrived at Llyn-y-Cwm. In it we found *Carex ampullacea*, and saw leaves of *Lobelia Dortmanna.* Following the stream, we arrived at the top of Twll Dû, a narrow fissure in the rock about three yards wide and nearly a hundred deep in the lowest part. The stream from Llyn-y-Cwm dashes through it with great impetuosity. We tried hard to find a place at which it would be possible to descend to the bottom of the fissure where it opens in the face of the precipice called Castell-y-Geifr (?) over Llyn Idwal. After some time we found on the south side a way down a ledge of rocks (near the top of which I found *Gnaphalium dioicum*) which led us to the lower opening of the fissure. The view up it was very fine, there being a waterfall about the middle. We then went along a narrow ledge on the other side of the stream, which, after leading us for some way along the face of the precipice and under a sort of showerbath, took us, with some exertion, to the top of the rocks. We found *Galium boreale*, *Arenaria verna*, *Thalictrum alpinum* and *T. minus*, *Sedum Rhodiola*, *Asplenium viride*, *Oxyria reniformis*, *Saxifraga hypnoïdes*, various, and *Cystopteris fragilis.* I afterwards ascended to the top of a part of Glydr-y-Vawr but could not see far on account of the valley, Cwm Ffynnon, being quite full of cloud, so as to run as it were over the mountains round it. The wind on the top, which is called Caernedd-y-Gwynt (the

height of tempests), was so strong that I could hardly stand against it. The top is covered with loose stones almost like the seaside. Descended again over a very rocky place to near Llyn-y-Cwm, and from thence to Llanberis by the same way we had ascended.

July 12. Went to see the waterfall of Rhaiadr Cannent Mawr, as it was very full on account of the rain that had fallen during the last few days. It was very fine, as the water, besides going down the inclined part of the rock, shot clean over the side, and so down at once into the hollow. We then went on to the lower end of the lakes and were much pleased by the view from the bridge at the bottom. We found in the river below the lakes *Pilularia globulifera*, *Lobelia Dortmanna*, and *Nymphaea alba*. The lakes, etc., were at least a foot higher than usual through the rain.

July 13. Started by the Capel Curig coach to see the Rhaiadr-y-Wenol. Saw it in very great perfection, it being very full of water. Found near it *Hymenophyllum Wilsoni*, *Polypodium Dryopteris*, and a large number of mosses. . . . About a mile nearer to Capel Curig than the place where the Beddgelert road separates from the Llanberis we found *Campanula hederacea* in plenty, and in the Capel Curig lake, *Lobelia Dortmanna*.

July 14. Started to ascend Snowdon. . . . It was rather hazy at intervals as the clouds kept forming on the sides of the mountains and going off again, but not so as to obscure the view to any great degree; we indeed saw it to great perfection. I counted twenty-nine lakes in sight from the top, and was not *very* particular to include the whole. . . . . We then set off botanizing in Clogwyn-y-Garnedd, and worked our way quite down from the top of Y-Wyddfa nearly to Ffynnon las. I found two specimens of *Chrysom. cerealis*, and we met with the following plants: *Saxifraga nivalis* in some plenty, *Cerastium latifolium*, *Poa alpina*, *Poa glauca*, (?) *Aspidium Lonchitis*, etc.

July 16. Went up to Llyn-y-Cwm. . . . We worked the rocks near Twll Dû and found plenty of *Gnaphalium dioicum*, one specimen of *Juniperis nana*, and one of *Vaccineum Vitis-idaea*. After we had finished there, started up the mountain Glydr-y-Vawr, and soon attained its highest point . . . . the height is about 3300 feet. On the way down Holmes found *Lycopodium annotinum* in small quantity, but not in fructification, and I found in the bogs near Llyn-y-Cwm *Eriophorum vaginatum* in plenty.

July 17. Went to-day to examine the rocks near Dolbadarn Castle, having seen it mentioned that *Hymenophyllum tunbridgense* β, i.e. *Trichomanes brevisetum* grew there. We did not find it, but found plenty of *Hymenophyllum Wilsoni*, some of the fronds in a growing state, so as to look like fructification coming at the ends of them. We then passed the river between the lakes and ascended to the road at the top of the wooded part of the mountain near the

slate quarries, and found one additional specimen of *Polemonium caeruleum.*

July 18. Went through the pass and examined the descent on the other side, but found little. Holmes found under a rock a specimen of *Lycopodium selago* with long procumbent stems. At about a mile beyond the junction of the Beddgelert and Llanberis roads to Capel Curig we found plenty of *Campanula hederacea* in beautiful flower near a small stream. On the way back examined the rocks on the north side of the lower end of the pass, particularly Craig-ddû, and I found a *few* specimens of *Asplenium septentrionale.*

July 19. Ascended Snowdon. Went up behind the church, and arriving at the top turned towards the left and descended into a hollow under Crib-y-Distill, and worked the rocks near two little pools in the hollow, one of them called, I think, Ffynnon frig. We then ascended a precipice near to Crib Coch and found, after we had gone some way, that we could not return, so were obliged to go to the top of it. In it we found *Polygonum viviparum* and *Draba incana*, both in very small quantity. The place to which we came on the top of the precipice was a grassy ridge between Crib Coch and Crib-y-Distill. For some time we could not find a way from it, but at last, after some hard climbing, we attained the summit of the mountain and returned home.

July 20. Did not start soon on account of the number of plants wanting to be looked over. Went down the road by the lakes, and found in the lower, *Scirpus lacustris*, *Lobelia Dortmanna*, *Alisma natans*, and *Myriophyllum spicatum* in plenty. Also found near the bridge, below the lakes, in the river, *Isoëtes lacustris*, *Pilularia globulifera*, *Carex vesicaria.*

July 21. Started early and went up Snowdon to examine another part of Clogwyn-y-Garnedd. When we arrived at the top of the ridge, Bwlch Glas, met with a Mr. Eyton (late of St. John's College) who was collecting insects. We then set to work at Clogwyn-y-Garnedd, and I found one specimen of *Carex atrata* and Holmes one of *Epilobium alsinifolium.* (?) We found about thirty specimens of *Saxifraga nivalis* in Clogwyn-y-Garnedd, and one a short distance up the first ascent behind the church at Llanberis.

July 23. Started to walk to Dolgelly to see Cader Idris. Went by the Capel Curig coach as far as the top of the pass, and met with Mr. D. Williams, agent for Sir R. Bulkeley. . . . He put us into a track over the mountains to Festiniog, but the track not being at all well marked we nearly lost our way, and had it not been for the map and my compass seal, we must have turned back, but with the assistance of these we at length found our way to that part of the vale near Llyn Cwmorthin. The road, or rather way, for path there is none, was very wild and dreary, but the prospects from

some parts very fine and extensive. Not knowing in what part of the vale Festiniog was situated we passed it, and walked two-and-a-half miles to Maentwrog. This was a very hard day's work.

July 24. Went to Dolgelly, a distance of eighteen miles along a good road. Ascended for some distance at first, almost as far as Trawsfynydd, a moderately large village at the end of five miles. (Found on the top of a wall a little beyond Trawsfynydd *Arrhenatherum elatius β nodosa*, and in plenty in the same part *Viola lutea*). We then on the whole descended most of the way to Llanelltydd, within one-and-a-half miles of Dolgelly; the last half of it was very pretty on account of the hills being well wooded on both sides of the river Maw, near which the road goes. Just at the entrance of the town we met P. Carlyon, of Emmanuel College; he would have us dine with his party (a reading one under Russell of Caius). They gave us a good dinner at the "Ship," and we had wine with Russell at his rooms afterwards. Spent a very pleasant evening.

July 25. Breakfasted with Carlyon, and then went with W. R. Pugh, guide, to ascend Cader Idris; we found the ascent very easy. The day was very fine, and we were much pleased with the mountain. After staying some time on the top (Pen-y-Gader), where I found a very hairy corolla'd *Festuca*, we went along the top of the mountain over Mynydd Moel (?) and through Bwlch Coch for the distance of about six miles, and descended into the road to Dinas Mawddy, at which we arrived in the evening, after passing over Bwlch-y-Ddrews, and finding near Vachell (?) one mile from Dinas, *Spiraea salicifolia* in plenty.

July 26. Left Dinas Mawddy, and ascended the river Dyfi, along an interesting vale as far as Llan-y-Mawddy, soon after which the road crosses the river and ascends the very lofty pass of Bwlch-y-Groes, from the top of which the prospect was most extensive. Saw *Hypericum dubium* near Llan-y-Mawddy. After resting for some time at the top of the pass, we descended the remaining half of the way to Bala, the last four miles along the banks of the lake. This was a very hot day.

July 27. Left Bala (having stopped at the "Lion," a most excellent inn), and followed the old road to Festiniog, the distance being nineteen-and-a-half miles. The road passes near the Arrenig mountains, which are very fine and lofty. At about half-way we found some *Polemonium caeruleum*. At about two miles from Festiniog, passed near Rh. Cynfel, but it wanted water. We went on two-and-a-half miles to Maentwrog. Observed the great force of the tide coming in here.

July 28. Started at 6.30, and walked as far as Beddgelert to breakfast. The road winds very much, having to pass over a singularly rocky tract of country. Went on to Llanberis by way of Nant Gwynant, passing by Dinas Emrys, a singular, insulated,

and wooded rock of great antiquarian note, Llyn-y-Dinas, and Llyn Gwynedd. Near the latter saw plenty of *Hypericum dubium*; the distance to-day was about twenty-two miles.

July 30. Went to Carnarvon. Took Holmes to see the Roman city of Seguntum.

Aug. 3. Started for Shrewsbury.

Aug. 4. Took up my quarters at W. A. Leighton's, and walked with him to Bomere Pool, and found *Dianthus deltoïdes* by the way. Found there *Typha angustifolia*, *Epipactis latifolia*, and *Scheuchzeria palustris* in seed.

Aug. 6. Went by coach to Buttington (found near Buttington *Inula Helenium* in plenty), on the Welshpool road, where we met Lewis, of St. John's College, who went with us to ascend the Breidden mountain. . . . Amongst some rocks near the beginning of the ascent I found a single specimen of *Potentilla rupestris* in seed. On the descent we found *Galeopsis versicolor* in plenty in some fields on the way to Middletown china works.

Aug. 8. We followed the banks of the canal to a place called Uffington; on our way saw *Carex pseudo-cyperus*, *Lemna polyrrhiza*, *Typha latifolia*, *Sagittaria sagittifolia*, *Hydrocharis Morsus-ranae*, *Stachys palustris*, etc., in the canal, and on the banks near *Tragopogon major* (?) and *Lathyrus sylvestris*. We then ascended Haughmond Hill, and after walking about it, and finding a few plants, such as *Anagallis tenella*, *Scutellaria minor*, etc., we descended to Haughmond Abbey, a ruin, some parts of which are very fine. On the walls I found *Dianthus Caryophyllus*.

Aug. 9. Set off for Birmingham. . . . . Went to see Weaver's Museum (see *London Mag. Nat. His.* for August). It is well worth seeing, there being a fine collection of British Insects.

Aug. 10. To Yoxall Lodge, Barton-under-Needwood (Rev. Canon Gisborne).

Aug. 11. Went to Lushpool; found there *Potamogeton gramineum* and *P. crispum*, *Sparganium simplex* and *S. ramosum*, *Sagittaria sagittifolia*, etc.

Aug. 13. Went to the banks of the Trent, near Walton, and found at Barton *Campanula patula* and *Hypericum dubium*.

Aug. 24. Went to Woodmill Brook, and saw there *Potamogeton perfoliatum*, *Hippuris vulgaris*, etc.

Sept. 1. Gathered 759 specimens of *Potentilla Tormentilla* to examine for the variations of the number of parts by which the Linnean Genera *Potentilla* and *Tormentilla* are distinguished.

Sept. 3. Gathered and examined 1632 specimens of *P. Tormentilla*, and found *Ulex nanus* in plenty, also a variety of *Polygala* with ovate leaves.

Sept. 7. Found *Senecio saracenicus* at Thatchmore, near a house, but my uncle (Canon Gisborne) says quite wild.

Sept. 10. Went to Tutbury, about six miles from the Lodge; saw the castle, and a very fine Norman church door. I obtained a number of the coins found in the river Dove (*See* Sir C. Mosley's "History of Tutbury"). Found *Pedicularis sylvatica* and a *Mentha.*

Sept. 12. Left the Lodge for Bath. When at Birmingham, I went again to see Weaver's Museum.

1833. *March* 20. Fees for M.A. Degree:

	£	s.	d.
Senior Proctor...	5	4	6
Registrary	6	6	0
Do. Man		2	0
Father of St. John's	7	3	6
College Servants		7	6
Huddling		2	0
	£19	5	6

April 22. Henslow commenced his lectures; this is the sixth course that I have attended.

May 9. Professor Henslow's botanical expedition to Gamlingay. We had one stage coach.

May 16. Botanical expedition to the fens in the conservators' barge.

May 23. To Linton; this was the first time that the botanical party went there. I then first saw growing *Botrychium Lunaria, Aceras anthropophora, Habenaria viridis.*

June 1. Henslow, Power, Broome, and myself went to a wood near Baitsbite to get some very fine plants of *Ophrys apifera.* On the way found *Galium erectum* at Fen Ditton.

June 4. I went to town and attended the meeting of the Linnean Society.

June 5. Mr. Solly showed me the circulation of the sap in the filaments of the *Tradescantia.*

June 8. Started by coach to Colchester to visit Holmes. . . . . Went to Mersea Island, it is only accessible at low water, botanized there, found many plants. (*See* Herbarium.*)

June 12. Botanized along the coast to the south of the town (Harwich). First saw *Poa distans* and *P. maritima, Rottboellia incurva,* and *Hordeum maritimum.*

June 15. Holmes and I went in his father's gig to Tiptree Heath, a few miles south of Copford, and found a great number of plants. I first found *Trigonella ornithopodioïdes.*

* This reference is intended to convey the fact that the plants found in Mersea Island may be seen in the Cambridge University Herbarium.

June 18. Went to Colchester. The castle is well worth seeing. It is of Roman architecture and consists of one large square tower. It is now used temporarily as a prison. It is built of brick. The Botanic Garden is very good; the collection of plants is large, but badly named. The ground is well laid out.

June 21. Returned to Cambridge by coach through Halstead, Haverhill, and Linton. The only object worth noting is that the road passes near Hedingham Castle, a very fine ruin, once belonging to the family of De Vere, Earls of Oxford. The same evening I went to the rooms of the Philosophical Society, and was employed for some time in finding rooms for the members of the British Association that arrived. Mr. J. Curtis, the entomologsit, I tookto Corpus.

June 22. Curtis breakfasted with me, and then we walked to Grantchester. He dined with me in Hall. At four o'clock I went to the Philosophical Society's house, and took my station at "Table C" for the delivery of tickets to the members of the British Association. Remained there till nine o'clock.

June 23. *Sunday.* D. Don (Librarian of the Linnean Society) breakfasted with me, and then introduced me to Mr. W. Christy, jun. and Mr. A. Cunningham, M.A., the New South Wales botanist. We three went to Trinity Church and heard Simeon preach. They were much pleased.

June 24. This day the Meeting of the British Association commenced. I was employed at "Table C" till ten o'clock, at which time I went to the meeting of the Committee of the Natural History Section. Mr. W. L. P. Garnons, of Sidney Sussex College, was elected Chairman, and Mr. D. Don and myself were appointed Secretaries. At one o'clock there was a general meeting of the whole body in the Senate House.

June 26. Dined to-day in the Hall of Sidney College. Quite a Natural History party.

June 27. Dined with a Natural History party in Clare Hall.

June 28. The last day of the meeting. At five o'clock there was a cold collation in the Hall of Trinity College. It went off very well.

June 29. This day Professor Agardt, of Lund, Mr. W. Christy, Mr. Garnons, Stephens, the great entomologist, and Westwood breakfasted with me. We went, under the direction of Henslow, into the fens. We had the conservators' barge. At Baitsbite we found *Potamogeton zosterifolius* in the ditch leading up to the Horningsea road. At Clayhithe we examined Bottisham fen, and Professor Agardt informed us that the *Chara* we had been accustomed to call *gracilis* was the *hyalina* of his work. We followed the river as far as Upware and went into the sedge fen. Saw in flower *Stratiotes aloïdes.*

June 30. *Sunday.* Stephens and Westwood breakfasted with me, and went to hear Simeon.

July 1. Stephens, Westwood, and I went entomologizing to Madingley wood.

July 2. At eight this morning I was in the Senate House to be "created" an M.A. Breakfasted at Power's, of Clare Hall. Stephens, Westwood, and I went by coach to the Devil's Ditch, and at six o'clock dined with the Rev. L. Jenyns at Swaffham Bulbeck.

July 3. We three went again to Madingley wood.

July 4. Stephens went to Monkswood, Westwood and I went to the Gogmagog Hills. I found forty specimens of *Cardiapus Matthewsii* on the *Helianthemum vulgare.*

July 10. To Bath. . . . In a few days after my arrival at Bath Mr. E. Collings, Librarian, Saville Row, requested me to look over a list of the Bath plants, and make additions and corrections. I found the list so imperfect that it was determined to endeavour to complete my list of those which I had observed. I worked hard all the summer and finished the manuscript on the 15th of October, having had the loan of Dr. H. Gibbes' "Flora Bathoniensis," and assistance from Mr. E. Simms (son of Mr. Simms, the bookseller, of George Street) and Dr. J. F. Davies.

August. I was employed with my Flora during the whole of this month and September.

Oct. 26. This day, at about seven p.m., my mother was walking across the drawing-room and fell down and fractured the neck of her left thigh bone. We had Mr. Norman immediately. This accident brought on an attack upon the lungs. . . .

Nov. 4. This evening the first regular meeting of the Entomological Society took place. I was prevented from attending by my mother's illness.

Nov. 18. My poor mother died at about six o'clock a.m.

Nov. 23. This day she was buried at Broughton Gifford, Wilts, in a tomb formed for my father.

Nov. 30. I this day corrected the last proof of my "Flora Bathoniensis."

Dec. 4. Went to the Linnean Society to examine the collections about *Euphorbia epithymoïdes.*

Dec. 6. Went to Mr. J. O. Westwood's, at Hammersmith, and stayed the night. He took me to Chiswick, where is the tomb of Hogarth.

Dec. 10. Went to Hammersmith, and in the evening walked to town to the rooms of the Entomological Society, and then to the meeting of the Zoological Society to see a new species of lion found in India by Captain Smee, who killed eleven of them. It has very little mane, and is shorter and thicker than the Indian lion.

Dec. 11. Went to Mr. Stephens' and made extracts for my paper on *Dromius.*

Dec. 12. Started from Westwood's, near the fourth milestone from Hyde Park Corner, at twenty minutes past eight a.m., and arrived at Bath at half-past eight p.m.

Dec. 13. Am now reading Burckhardt's "Travels in Syria."

Dec. 14. I, this day, commenced reading the "Familiar Letters and Miscellaneous Papers of Dr. Benjamin Franklin." I determined to read a part of Rollin's "Roman History" in French every day, to commence on Monday next.

Dec. 17. Commenced reading the "Life of Sir W. Penn," by Granville Penn, having finished Dr. Franklin's "Letters," with which I am much pleased.

1834. *Jan.* 1. This day is published my "Flora Bathoniensis," price 1*s.* 6*d.*; or, with a map of the country round Bath, 2*s.*

Jan. 20. Attended a meeting at Collings' Library, for the purpose of preparing for founding an Horticultural Society at Bath. I also added my name to the list, prepared by Mr. Goodrich, for a Botanical Garden, to consist of forty members.

Jan. 23. Commenced reading Niebuhr's "History of Rome."

Jan. 31. Attended a public meeting at Sydney Gardens to form a "Bath Horticultural and Floral Society." I seconded the third resolution for the appointment of a patron.

Feb. 1. I walked this day with Mr. Stuart Menteath to Claverton. We saw in flower the laurel, elm, etc., and heard the blackbird sing.

Feb. 3. Found this day on Claverton Down *Helleborus foetidus,* nearly quite out of flower; saw also in flower the nut, and *Geranium Robertianum.*

Feb. 17. I saw to-day the *Mercurialis perennis* in flower, and Col. Stone told me that his apricot, peach, and nectarine trees had been in flower for three or four days.

Feb. 26. Started at 7 p.m. inside the "Monarch" coach for London, arrived in town at 8.30 a.m. Dined at Mr. Christy's. Met Lord Mountmorres and Mr. Hooker, a botanist. In the evening a large conversazione, at which were most of the London naturalists of my acquaintance.

March 1. Called at Rev. F. Hope's, and obtained from him the loan of specimens of *Dromius sigma* from the continent, and also from Aberystwith, for description in my paper on that genus.

March 3. Went to Linnean Society and examined works upon *Dromius.* Meeting of the Entomological Society in the evening.

March 6. Started at 10 by the "Telegraph" coach from Charing Cross, and arrived at Cambridge at 3.

March 10. Went to Grantchester, and took *Hyd. jugularis*, etc.

March 14. Walked with Henslow, and found *Adoxa moschatellina* in flower.

March 15. Signed a petition to do away with all religious tests at the time of taking degrees, in any thing but Divinity.

March 22. Went at 7 a.m. to Shelford Common to take *Haliplus elevatus* with Power.

March 26. Went with Power to the Hills. The *Anemone Pulsatilla* in flower.

March 27. Went to Copford in Essex to spend a short time with E. A. Holmes and his father.

March 29. Found in Layer wood *Vinca minor* in great plenty, quite wild.

April 1. Gathered the male and female of the *Viscum album* from an apple tree.

April 12. This day it snowed more than it had done during the last winter.

April 14. Returned to Cambridge.

April 15, 16. Worked at the Philosophical Society, in renewing the spirit for the bottles for the Museum and covering them with india rubber, stretched tight.

April 22. Went with Henslow to the Gogmagog Hills. Power found *Chrysom. sanguinolenta* in a chalk pit.

April 24. Took fifty specimens of *Hydroporus jugularis*.

May 26. Went to Haslingfield to look for Relham's locality for *Myosurus minimus*, but did not find it.

May 11. James Brown and I took out of a maple rail fifteen specimens of *Nemosoma elongatulum*, it was the further end of Little Grantchester lane.

May 15. Botanical expedition to Gamlingay. We obtained of the boys there about seventy *Natterjacks*, and they had, as they told us, three pecks more of them. I took *Cassida salicorniae*.

May 17. Henslow, Molineux, Broome, Lingwood, and I went to Horningsea fen to look for *Sesia*; one was found.

May 22. Left Cambridge to spend a few days with W. Whitear at Cley-next-the-sea, Norfolk.

May 23. We went upon the bank of shingle that divides the marshes and the harbour from the open sea. Walked as far as Blakeney Meals (low hills of sand nearly surrounded by the sea). Found many plants, such as *Carex arenaria*, *Elymus arenarius*, *Statice reticulata*, *Chenopodium maritimum*, *Plantago maritima*, *Triglochin maritimum*, etc. In the evening went to look at the outside of Cley and

Wiveton churches, the former large, old, once very fine, now in a very bad state of repair, the latter large and very light.

May 24. Walked as far as Glandford, church in ruins, used about eighty years since. The country hilly, hills formed of sand with a subsoil of chalk, covered with gorse, *Rosa spinosissima*, fern, etc. In the fields *Papaver Rheas*, *dubium*, and *argemone* are very common.

May 25. *Sunday.* Whitear has adopted the plan of taking the New Testament, and explaining it regularly from the pulpit in the form of short lectures.

May 26. To Langham and Burnham Abbey, a fine monastic building (formed, like nearly all the buildings of this part of the country, of pebbles mortared together), all quite in ruin, except part of the church, now used by the parish. Then to Stifkey, an old house with four round towers at the angles, part in ruins, now used as a farmhouse: by Morston and Blakeney home.

May 27. Went along the coast in a gig by Salthouse to Weybourne, a fine old monastery in ruin, the church used by the parish. Walked under or upon the cliffs to Sherringham and Cromer. Dined half-way up the cliffs between Sherringham and Cromer. Cromer church partly in ruin. Returned inland by Runton and Beeston to Sherringham, a small monastic building quite ruined, has been very elegant.

May 28. To Edgefield Heath, south of Holt, found there *Drosera longifolia* in plenty.

May 30, 31. Was not well, obliged to have the advice of Mr. Buck, a clever man, formerly a naval surgeon.

June 4. Went to the marshes, and found a large number of *Macroplea Zosterae* on *Potamogeton* in fresh water.

June 5. Found *Lepidium ruderale* in great plenty just below the town of Cley. In the evening went to Holt, preparatory to my return to Cambridge, June 6th.

June 9. Went with Power to the Hills, and took *Haltica antennata* in plenty, also *Cryptocephalus Morei.*

June 11. Left Cambridge for the Long Vacation. Arrived in London. Saw D. Don, to whom I engaged to send specimens of *Euphorbia epithymoïdes* for Sowerby's "Supplement to the English Botany."

June 12. Went to Hammersmith to J. O. Westwood; he said that he was fully convinced that my *Malachius* is quite distinct from that which is figured in Panzer. I delivered to him my paper on *Dromius* to be read to the Entomological Society. He promised to purchase for me (at Mr. Haworth's sale) one of his cabinets, containing forty-four drawers, not giving more than 15*s.* a drawer for it.

June 13. Bath.

June 16. Went to the lane near to Prior Park to get *Euphorbia epithymoïdes*; obtained forty-four specimens of it, in a very good state for drying.

June 17. Gathered on the canal bank 120 specimens of *Carex remota*, to dry for Henslow's Botanical Collections, fasc. 2.

June 20. Gathered specimens of *Euphorbia epithymoïdes* in the wood near Prior Park for W. Christy.

June 21. Took fourteen specimens of *Chrysomela graminis* in the lane between Swainswick and Batheaston.

June 23. Gathered at Batheaston sixty-four specimens of *Digraphis arundinacea* to dry for the Cambridge Botanical Collections.

June 24. Meeting and Show of the Bath Horticultural Society. I, being a member of the Committee, was in attendance at Sydney Gardens at seven in the morning to assist in arranging the plants, etc. At half-past nine breakfasted with Mr. Goodrich, and then returned to the gardens. At about eleven o'clock I was appointed a Censor of the prizes for cottagers and for vegetables, conjointly with two practical men. At two the public were admitted on payment of 2*s.* 6*d.* each, or producing a ticket. We had a large tent in the centre of the garden for the show of flowers, and the people spread themselves all over the gardens. At five the rest of those who chose to come were admitted at 1*s.* each, and we proceeded almost immediately to pay the prizes. I did not get away till half-past eight in the evening. The sum taken at the door nearly £100.

June 27. Found the note appended, from Mr. Borrer, upon whom I immediately called. He gave me a number of plants gathered by him in Wales. We then went to the station of *Euphorbia* (*epithymoïdes?*), and afterwards, by means of a fly, to the station of *Lysimachia thyrsiflora*. We dined together at the York House, and had a great deal of most interesting botanical conversation.

Note.—"Mr. Borrer requests of Mr. Babington a direction to the stations of *Euphorbia epithymoïdes*. York House. Friday morning."

July 1. Mr. E. Collings, of Saville Row, and I took a gig to Cheddar. We started at two o'clock. Went through Corston, Marksbury, Chelwood, Stanton Wick, Stowey, West Harptree, and then, instead of turning to the left and ascending the Mendip Hills, we went on by Compton Martin, Ubley, and Blagdon, there turned up the hill, and after some difficulty found our way down through the cliffs to Cheddar.

July 2. At 6 a.m. I went to the rocks, and after much climbing found a few plants of the *Dianthus* growing on nearly inaccessible parts of the cliff. I also found on the rocks *Thalictrum minus*, *Meconopsis cambrica*, *Polypodium Dryopteris*, etc. . . . . We took our

gig through Axbridge and Winscombe to Banwell. Saw the bone cave, containing by far the largest collection of fossil bones that has been found in any part of the kingdom (it belongs to Dr. Law, Bishop of Bath and Wells). Also saw the Bishop's cottage, from which there is an extremely fine view. . . . . Returned to Bath by Churchill, Burrington, Blagdon, and so on by the route of yesterday.

July 3. Found in the field behind the farm-house on Claverton Down *Habenaria viridis* and *Orchis ustulata.*

July 4. Went this day to Box and saw a Roman pavement in the garden of a house below the church. It is not a very fine one, nor very perfect. Westwood bought for me this day in London one of the late Mr. Haworth's cabinets at an auction for £31.

July 8. Left Bath at eight a.m. and, passing through Cheltenham, Worcester, Kidderminster, and Bridgnorth, arrived at Shrewsbury at half-past ten p.m. At the farther end of the valley of Stroud on the side of the hill I noticed plenty of *Brachypodium pinnatum.* Slept at the "Raven and Bell."

July 9. Went to breakfast at W. A. Leighton's. We went to Bomere and found *Scheuchzeria*, *Carex limosa*, *C. teretiuscula*, *C. curta*, etc.

July 12. Went by the Pool coach to the Breidden, left Shrewsbury at half-past five a.m., following the lower edge of the craggy part of the mountain, gradually ascending until we came to a cleft in the rocks, which we ascended to the highest part of the rocks. Returned by Criggeon. Found *Hieracium alpinum*, *Sedum Forsterianum*, and *Potentilla rupestris* in seed on a crag at the top of the nearer end of the precipice.

July 13. *Sunday.* Went to church at Meole.

July 14. Started by coach at half-past five a.m. to Nescliffe Hill, where we met Mr. J. F. M. Dovaston, of West Felton. Botanized there for some time, and noticed particularly an oak tree growing plentifully wild there. It is probably the *Durmast Oak* of Martyn's "Flora Rustica." It has a much darker appearance than the *Quercus robur* which grows with it. Walked on to Mr. Dovaston's house, and after dinner went to see the church, etc. He has a very curious *Yew* tree in his garden, with drooping branches, which give it a most beautiful appearance, and having both male and female flowers on the same plant but on different branches.

July 23. Left Shrewsbury at a quarter before four a.m. Arrived at Liverpool at half-past eleven a.m. Passed through Ellesmere; the church very fine, and some most beautiful and most botanical looking lakes. Also Wrexham and Chester, the latter a fine old place with a new bridge over the Dee, having the largest stone arch in Europe. Crossed the Mersey by Birkenhead ferry, saw the docks, completely full of ships, and the new but unfinished custom-house—it will be a most beautiful building. Also went to the Zoological

Garden, a new institution, but beautifully laid out, and having a very good collection of animals. Here I first saw a rhinoceros and some young alligators. It is a most formidable rival to the London institutions of a similar kind. At five p.m. left Liverpool by the railroad for Manchester. Arrived at 6.15, distance thirty-one miles.

July 24. Left Manchester at a quarter before five a.m. for Darlington. Passed over some high, barren moorland, and, before reaching Huddersfield, had to walk a mile-and-a-half down a hill on account of the road having been quite cut up, as if with a plough, by two hours' rain the evening before. It was as much as they could manage to get the coach itself over. Reached Leeds at half-past nine and proceeded immediately through Harrogate and Ripon to Darlington, at which place arrived at half-past four p.m. Harrogate is divided into two villages, Upper and Lower. Ripon has a very good square market place, and the Minster is a very beautiful object from the road. After dinner I walked to High Coniscliffe, about five miles up the Tees, to see J. J. Cundill, late of St. John's, and to stay a few days.

July 25. We walked about a mile up the river Sherne to look for *Lysimachia punctata*, but found only *L. vulgaris*.

July 26. We saw the *Campanula latifolia* in great beauty.

July 27. The church of Coniscliffe is very old, and has old carved pews in it. The parsonage house is seated on the top of a rock that has been worked as a lime quarry, so that the garden wall rises from the edge of the rock. Here I first saw *Primula farinosa* growing wild.

July 30. Went to Cliffe wood and the petrifying spring on the bank of the river. Found in the wood *Ribes alpinum*.

Aug. 1. Went to Darlington by the Barnard Castle omnibus at half-past eleven, left Darlington by the "High Flyer" at two p.m. and arrived in Durham at about half-past three ("The Three Tuns," in the New Elvet, at Durham). The church at Darlington is a curious structure, well worth inspection. At Durham called at the Prebendal College in hopes of finding Mr. Gisborne, but he had left a week before. Went to the Minster and was, of course, *much* pleased with it. It stands between two steep banks descending to the river. There is hardly any painted glass. In the evening walked along the left side of the Wear through some wood, and was much pleased by the beauty of the views.

Aug. 2. Started at eight a.m. for Newcastle-on-Tyne. Called on Mr. Wailes, Mr. Bowman, and Mr. Winch. Tea with Mr. Bowman. We had much botanical conversation.

Aug. 3. Wailes, Bowman, Mr. J. Alder (conchologist), and I went to Shields to botanize and entomologize. We went in a gig (as it is called, for it carried six and a child), a tight fit. Crossed

the water to South Shields and went to the Ballast Hills. Gathered a few plants, particularly *Melilotus leucantha*, and found a number of insects. We went along the coast as far as some very curious rocks, many of them formed of a mass of strata, broken in every manner, and then firmly cemented together again. I also saw the well-known flexible limestone in plenty. We came back to Newcastle by steam-boat, having seen at ——— *Eryngium campestre* in very great plenty, although not in flower. Wailes recommended a saturated solution of oxalic acid to kill moths instantaneously, by inserting a quill point into the insect after it has been dipped in it.

Aug. 4. Breakfasted with Mr. Winch and determined my Bath *Euphorbia* to be *E. palustris*. We walked into a small valley, Heaton Dean, near the town, and Mr. Winch pointed out to me three or four species of *Rosa* and *Rubus*. Dined with Mr. Wailes and saw his cabinet of insects.

Aug. 6. Breakfasted with Mr. Winch. He gave me an original specimen of *Triticum cristatum*, gathered by G. Don. At twelve o'clock left Newcastle for Berwick-upon-Tweed, and reached that place at nine p.m., passing through Morpeth and Alnwick. The castle at the latter is given correctly in the views of it, and is a very fine object from the north entrance into the town, that road passing under its walls. On the south entrance is an old gateway, which for convenience ought to come down, but which it would be a great pity to destroy. The country alters sensibly as you go north, having a much more dreary look near Berwick than near Newcastle, although the land appears to be in a high state of cultivation. I particularly noticed the great size of the fields, etc., and suppose that the farms are extensive. Noticed a fine range of hills on the left at about ten miles from Berwick. The boats employed in fishing for herrings were so numerous a few miles from land as to form a dark band of very great length parallel to the coast.

Aug. 7. After breakfast called on Dr. G. Johnston (one of the nicest men I have yet met with among the naturalists), found there Mr. Brown, a botanist of the neighbourhood. Dr. Johnston having to see some patients, Mr. Brown and I inspected his herbarium, and then walked some distance up the Scotch side of the river, which is very wide. The bridge is of great length, and increases in height as you approach the town, so that the largest arch is that which is nearest but one to the town. The castle, now nearly quite destroyed, is at the upper corner of the town, near the river. The stones of it were used in the time of Queen Anne to build the town fortifications. One of the walls connecting it with the town is now used as a cart road. The fortifications are mounds of earth faced with stone and having a deep dry fosse on the outside. After dinner we went to the seaside to look for *Aepus fulvescens*, found by Dr. Johnston. We could not meet with it. He found it under stones covered by each tide, and could have taken plenty.

Aug. 8. Walked round the sea walls of the town. The fortifications are in a very perfect state. Dr. Johnston and I looked again, in vain, for *Aepus fulvescens*, and then went to a small pond and found one of *Hydrop. jugularis.*

Aug. 9. We walked up the river Tweed on the Scotch side as far as the junction of it with the White Adder, then followed that river to a bridge and returned by the road. We found *Hydrop. jugularis*, *Enicocerus*, and various specimens of *Elmis.*

Aug. 10. The church is a structure of the date of the Commonwealth and has no tower. The bell at the town hall is rung for service. The vicar, who preached in the afternoon, introduced his sermon in that part of the service at which the anthem is usually sung, and finished the service afterwards.

Aug. 11. Dr. Johnston and I went over the bridge and along the coast of North Durham for about three miles. I found what appears to be a minute *Staphylinus* in the crevices of rocks below high-water mark.

Aug. 12. Walked by myself along the coast as far as a rock called the Needle's-eye. I did not find much, but was greatly pleased by the bold rocky character of the coast.

Aug. 13. We went in a gig to Holy Island. It is about fifteen miles from Berwick, and three miles of the distance is over sands, which are covered at high water. The island appears to be far from fertile. The castle, a little place planted upon a rock at the south end, is very small and mounts six or seven guns. The priory is very fine. One arch is standing of the Saxon style, and has a very beautiful appearance. The west end terminates in a beautiful Saxon retiring doorway. The priory is quite close to the village. In the street is an ancient cross, quite perfect. The church is very old but neat. Returned by 8 p.m.

Aug. 14. Gathered *Sisymbrium Irio* under the town walls near the gate leading to the pier. *Diplotaxis tenuifolia* is in great plenty in the mounds of the fortifications, and also on the outside of the town walls.

Aug. 15. Found some moths on the *Senecio* on the tops of the rocks near to the sea.

Aug. 16. Walked along the Edinburgh road about three miles, and then turned to the left on to Lamberton Moor. After passing over much of it we re-entered the road and followed it to a burn above Ross (near Burnmouth). Found in it *Rosa villosa*, *Epilobium angustifolium.* We then returned by the coast, and before reaching Lambertonshiels found on a rock close to the sea *Ligusticum Scoticum* and *Asplenium marinum.* We then soon left the sea and returned by the public road.

Aug. 18. Mr. Maclagan and I went to call on Mr. Goode, an excellent painter who resides in this town, and saw a few very fine pictures of his. He was originally a sign and house painter, and by his talents has raised himself to a high rank amongst the artists of the day, and made a comfortable independence. After dinner we went behind the pier and found *Helobia Gillenhallii* under stones.

Aug. 19. Maclagan and I went this morning over the bridge and through some fields to East Ord. We examined a ditch by the way but found nothing. We then descended a burn to the Tweed, and after an unsuccessful search (saw *Rubus caesius* in plenty) crossed the river to the mouth of the White Adder (this is a locality for *Allium arenarium*), followed that river as far as the bridge, just below which we found *Enicocerus* in very great plenty, and also various species of *Elmis*. Rather nearer the mouth of the White Adder we found *Rosa villosa* and *Rosa caesia* (of Dr. Johnston's Flora), also *Mentha viridis* and *gentilis*, the latter in great plenty. I never noticed so large a quantity of *Petasites vulgaris* in one place as on the bank of that river in a wet place; there must be many acres of it. On our return by the turnpike road we saw *Rosa tomentosa* in the hedge, and also a *Rose* agreeing nearly with *R. caesia* of Sm. Dr. Johnston mentioned a curious fact concerning *Cardamine pratensis*. (*See his* "Flora of Berwick.")

Aug. 20. Went through Spittal to Scrammerston, near the coast, and found in some old lime quarries seventy specimens of *Hydroporus* 12-*punctatus*, and a large number of *H. depressus*, besides the usual species, such as *H. d. pustulatus*. I took a *plume* and Maclagan a *Charaeas graminis*. This place is about three-and-a-half miles from Berwick Bridge.

Aug. 21. Took some *Charaeas graminis* on the sea-banks. In the afternoon went to Halidon Hill, the scene of the great battle. The ground is formed of two hills with a bog in the middle, in which the Scots were defeated. We saw no insects except one *Charaeas graminis*.

Aug. 22. We went along the turnpike road to —— and then descended a burn very well wooded, and having a large quantity of *Saxifraga umbrosa* naturalized in it, as far as the White Adder, and followed it with few exceptions to Cantis bridge, then returned by the road. Found *Colymbetes maculatus* and *Hydrop.* 12-*punctatus* in the river.

Aug. 23. Took *Cassida rubiginosa* on the thistle near the town. Saw an *anguis torquatus*, common snake, take a frog. It swallowed it in about a minute, and took one of the hind legs first, the head being the part that disappeared last. Dr. Johnston gave me a copy of his "Flora of Berwick," 2 vols. 8vo.

Aug. 25. Left Berwick at 6 a.m. and had heavy rain for the first three hours of the journey. Did not see much of the beauties

of the country. The only points of interest noticed before arriving at Dunbar were Peaseburn, a deep wooded glen of great beauty, and Cockburnspath tower, a ruin of which little now remains. Dunbar is an old-looking town, but as the rain was not quite over and we were quite wet I did not see much of it. The road soon crosses the river Tyne and ascends it for some miles, having a fine view of the Lammermoor hills on the left. Just over the river are the ruins of Hailes Castle, of which very little remains, and a curious rocky hill said to be 700 feet in height, quite insulated, called Traprain Law. Another of these hills is in view to the right, called North Berwick Law. . . . Reached Edinburgh at half-past one p.m. . . . Proceeded at four p.m. to Glasgow.

Aug. 26. Called upon Dr. Hooker, and found Mr., Mrs., and two Mr. Spences with him, also Dr. and Mrs. Richardson and Mr. Green, an American botanist. We went to see the Cathedral; I need only say that it is quite spoiled in its appearance by being divided into two churches, and having the crypt more than half filled with earth. We also saw the University, a fine old building, and the Hunterian Museum, well worth inspection. Dined at Dr. Hooker's.

Aug. 27. Went to the Botanic Garden, it is very excellent, and has a fine collection of plants (about 12,000). Dr. Hooker gave me a number of nice plants. We think that my Bath *Euphorbia* is *pubescens.*

Aug. 28. Mr. Spence, his two sons, and I left Glasgow at 7 a.m. by steamer. On our descent of the Clyde the banks continued near together for some miles, being built up on each side, but some time before reaching Dumbarton the river becomes a wide and beautiful stream. The Kilpatrick Hills are the first object of any note, they are on the right. At the foot of them are the ruins of Dunglass Castle, where the Roman Wall terminated. The hills terminate in the lofty basaltic hill of Dunbusk. Not far beyond, the town of Dumbarton appears, and particularly the castle rock of that town, which stands boldly into the river. The rock is basaltic, and rises to the height of 560 feet. Here is a fine view of Ben Lomond. Port Glasgow and Greenock on the left, are the next places. Gareloch opens on the right, having Roseneath, the seat of the Duke of Argyll, on it. We soon turned to the right into Loch Long, amidst scenery of the most splendid description, and in a few minutes entered Loch Goil, between which and Loch Long is the mass of mountain called, on account of its peculiar rugged character, "The Duke of Argyll's bowling green." At the head of this Loch we took coach, and crossed the mountains to St. Catherine's ferry, two-and-a-half miles across to Inverary. (N.B.—This is by far the best route to Inverary). . . . After dinner I ascended the hill to Duniquaich, opposite the castle, and not finding the road, I went straight up through the woods, and had a very difficult climb. The

top is crowned by a very ugly tower, but the view is splendid, taking in nearly the whole length of Loch Fyne and the surrounding mountains.

Aug. 29. Left Inverary at 5.15 a.m. in a car and breakfasted at Cairndow, having rounded the head of Loch Fyne and passed Dunderawe Castle, in ruins. After breakfast, not being able to get a car, we took a cart to carry Mr. Spence and our baggage, and commenced the ascent of Glen Kinglas, a vale of great beauty, gradually becoming more and more wild until after crossing the river Kinlas; a short but steep ascent brought us to Loch Restal, a very small lake on the top of the pass. Just beyond this place is a stone, placed by the soldiers of General Wade after making the road, and inscribed: "Rest, and be thankful." We however could not take advantage of it on account of rain, which had commenced about half way up the ascent and had been increasing in quantity all the way. From this point the road descended all the way to the head of Loch Long, through the romantic glen of Glen Croe, it then rounds the head of that Loch and proceeds along a nearly flat country to Tarbet. At the head of Loch Long is Arroquhar inn. On reaching Tarbet inn, on Loch Lomond, we had some difficulty in obtaining accommodation. Lord Harrowby and Lord Brougham were expected, and arrived in the evening. . . . I found Garnons here, shut up by the rain. At about 10 p.m. we started in slippers, with a lantern, to find our way to the cottage, the rain falling in torrents, and having to pass through a narrow footpath, down steps, over a narrow bridge, with a roaring burn flowing under it, and through a field of oats. At length we reached our quarters, and were glad to find that they were very neat, clean, and comfortable. . . . The beds were built in to the end of the room, and formed of straw, with a thin mattrass placed upon it, and confined in its place by means of a board fastened in front. We found ourselves very comfortable, and I can say that I never wish to have a better bed.

Aug. 30. This morning we looked about the neighbourhood, and determined, on account of the uncertainty of the weather, to return to Glasgow. The steam packet came up the Loch, and we went on board to see the head of the Loch. Noticed on the right near Inversnaid a very pretty waterfall, close to the lake, and were much pleased with the whole of the upper part of the lake; there are two or three islands of great beauty, but very small in it. On our descent of the lake, the view of Ben Lomond is by far the best that I have noticed, and the lake has a very fine appearance on account of the numerous islands with which it is studded, causing a different appearance almost every moment.

Aug. 31. *Sunday.* Went to hear one of the Scotch clergy, and was much pleased.

Sept. 2. Left Glasgow at 7 a.m. and reached Lanark at 10.45 a.m., passing on the right the castle of Bothwell, not in sight, now in

ruins, but having a seat of Lord Douglas close to it. Reached Bothwell Church, a fine old structure, and soon afterwards Bothwell Bridge, over the Clyde, the scene of the battle between the Duke of Monmouth and the Covenanters. It is now widened. . . . We particularly noticed the very great number of fruit trees, particularly plum, growing even in the hedges by the road side, and covered with ripe fruit. The coach stopped for a few minutes to allow us time to see the Fall of Stonebyres. Here the Clyde descends by three stages formed by intercepting rocks, from a height of eighty feet. After breakfast we ascended the river to see the great Falls. Upon entering the grounds of Lady M. Ross, a girl led the way, and showed us into a summer house, from which there is the first and a very fine view of Corra Linn. . . . We then proceeded by a most romantic path along the edge of a perpendicular-sided ravine in which the river flows to Bonniston Linn. Here a bridge has been formed by which the stranger passes over a part of the Fall to a rocky mound between the two main streams, and by a few steps it is possible to descend to the brink of each of the Falls. Here I noticed a *Hieracium murorum*. On our return I saw for the first time a *Pyrola* growing, also *Equisetum hyemale*. We now descended into the hollow below Corra Linn, and found *Saxifraga oppositifolia*, *Aquilegia vulgaris*, two species of *Hieracium*, *Asplenium viride*, *Circora alpina*, etc. We now fell in with Mr. J. Curtis, who was with the proprietor (?) of the New Lanark cotton works. He offered to show them to us. The water by which they are put in motion is brought 200 yards through a tunnel, from the Clyde. The mills are of enormous extent, and well worth inspection. We went all over them, and the school for the children, supported by the proprietor . . . the whole is in the most perfect state that it is possible to conceive. The town is built upon a uniform plan, and has a very neat appearance. About 1000 persons are in constant employment in the works. I must not forget to mention that we saw a cave, understood to have been used by Wallace as a place of concealment.

Sept. 3. To-day we went to Cartland Crags, and first admired the bridge over the ravine. It consists of three arches, the two piers of which rise to the height of 146 feet above the water. We then descended by a very steep path and spent some hours in examining the bottom. The whole place is worthy of a minute examination. . . . Started for Edinburgh. Took up my quarters at Dr. Maclagan's 129, George Street, for British Association.

Sept. 6. Breakfasted with Mr. Patrick Neill. Walked with D. Don, Alan Cunningham, and Garnons about the town and to the Botanic Garden, where we met a large party under the superintendence of Professor Graham. Dined with Mr. P. Neill and met a party of eighteen botanists. Amongst them were R. Brown, Graham, Greville, A. Cunningham, W. Arnott, Royle, Mackay of Dublin, MacNab, etc.

Sept. 7. Garnons and I went to St. George's Church in the morning, and to the "High" Church in the afternoon.

Sept. 8. Breakfasted with Mr. Leonard Horner, 52, Melville Street. Met Mr. C. Lyell, etc. Dined at the Hopeton Rooms with the members of the Association. Sedgwick made a short speech. Meeting at the Assembly Rooms in the evening, very crowded and hot. Sedgwick made an excellent speech.

Sept. 9. Very wet. Dr. Maclagan had invited a party to breakfast, but not half of them ventured out. First meeting of the sections. Ours was very full. General meeting in the evening as before.

Sept. 11. Breakfast with the College of Physicians. Sections and general meeting as before. Dined at Dr. Graham's.

Sept. 13. Breakfast at home, Henslow with us. Heard Lord Brougham speak.

Sept. 14. After breakfast walked with Garnons to Blackford Hill. The view of Edinburgh is most excellent from this point.

Sept. 15. Breakfast with Mr. Walker Arnott. D. Don, A. Cunningham, Mackay, Otto of Berlin, and I walked to Craigleith quarry to see the large fossil tree. It is of immense size and in excellent preservation. At 3 left Edinburgh, and reached Berwick at 10 o'clock.

Sept. 16. Walked about Berwick. Dr. Johnston found *Corc. oblonga-guttata.*

Sept. 17. Went by coach at 6 a.m. to Twizel House, Northumberland, the seat of Mr. Selby, to attend a meeting of Berwickshire Naturalists' Club. After breakfast we walked out and descended a dene towards the sea. We there found *Rosa scabriuscula* and *Mentha gentilis*, also *Sanguisorba officinalis.* From thence we passed some most beautiful rocks, but had no time to examine them although they appeared most promising. Continued our route to Bamborough. The castle is a most interesting object. Returned to Twizel House to dinner. Mr. Jenyns and Mr. Yarrell were of the party. Reached Berwick again at half-past nine p.m.

Sept. 18. Dissected a shark and was much struck by the large extent of its liver. The colon was most curious, having a spiral running down the inside.

Sept. 20. Took a large number of *Halticas*, etc., on a wall by the side of the river. Much pleased with Mr. Baird, a gentleman who has been here for a few days. He is a good naturalist and the author of some papers in the *Mag. Nat. Hist.*

Sept. 22. Left Berwick at eight a.m., reached Newcastle at about 4 p.m. Nothing additional to say about the road except that Bamborough Castle is a fine object for some miles, being

placed upon an eminence by the sea. Took tea with Bowman, who gave me some of his duplicate plants.

Sept. 23. Left Newcastle . . . arrived at Manchester.

Sept. 24. Left Manchester at five a.m., and passing through Altrincham, crossed the new railroad to London at a point between the two great viaducts. A large number of men were just commencing the excavation. The next town was Northwich. The road then passed through Delamere Forest, consisting mostly of fir, and reached Chester at eleven a.m. I walked round the walls of Chester, saw the cathedral and as much of the city as I could explore alone, and was very much struck by various parts of it. The cathedral is built of red sandstone. Reached Shrewsbury. Called on Leighton in the evening.

Sept. 25. Spent the day with W. A. Leighton.

Sept. 26. To Hereford.

Sept. 27. To Bath, passing through Ross and Monmouth. Before reaching Monmouth passed Goodrich Castle, placed in a very commanding situation. The road then follows the course of the river Wye to Chepstow. The river winds very much, and is everywhere bounded by lofty wooded hills. We stopped for a few minutes at Tintern, long enough to have a hasty sight of the Abbey. We crossed by the old passage in about ten minutes with a fair wind, and I reached Bath at half-past seven p.m. Noticed *Campanula patula* in plenty on bank by the roadside near the river Wye.

Oct. 3. Walked to Wyck and saw the *Ulex nanus* in full flower.

Oct. 7. Went to Hampton Rocks with Mr. Lockey. . . . . We measured a pollard *Elm* in the lane leading from Hampton Church to the mill and found it to be twenty feet ten inches in circumference at about three feet from the ground.

Oct. 14. Left Bath for London.

Oct. 16. A great fire in the evening; Parliament Houses burned down.

Oct. 17. Arrived at Cambridge.

Oct. 18. Walked with Henslow to Madingley Hall to see a very large fungus found on one of the trees there. The house is a very fine old place, having a grand entrance hall supported by pillars, and a large polished oak staircase.

Oct. 26. J. L. Brown and I went to Grantchester. We took from under the bark of an old railing a large number of *Hylesinus furcatus.*

Nov. 4. J. L. Brown and I went to the Gogmagog Hills but found very little, only a few *Halticas* and small *Staphylinidae.* This day was the election of a new Vice-Chancellor of the University. The

Heads nominated Dr. French (the next in order) and Dr. Ainslie, omitting Dr. Lamb, who ought to have followed Dr. French (on account of his not being a Tory). The result was that many of us voted for Dr. Ainslie in order to show our dislike to such a trick to deprive Dr. Lamb of his turn. Dr. French got the election.

Nov. 5. Removed into new rooms, New Court, A 15, lately held by Bromby, and looking out over the walks.

Nov. 6. Dined at the "Eagle" with the members of the Cambridge Philosophical Society. We had a very pleasant party, and did not break up till ten o'clock. At the general meeting of the Society, held this day, I should have been elected one of the council but for the members not liking to have any more Johnians on that body.

Nov. 14. Henslow, Lingwood, and I went to the first turnpike on the Wimpole Road to take the temperature of a newly-formed spring there. It is one of those made by piercing the gault. Temperature 52° F. Henslow remarked that that is about the temperature of all similar springs near this town.

Nov. 17. Attended a meeting at Mr. Bowstead's rooms at Corpus, to vote an address to Mr. Connop Thirlwall expressive of our sorrow at his being prevented from acting as tutor, and of our disapprobation of the discussion of things not forming part of the duties of tuition being made a cause for depriving a tutor of his office.

Nov. 29. A meeting was called for 28th to take into consideration the address to Thirlwall. Laing, Henslow, and I supposed that it was this day, and went, and found that the meeting was over and the address, much to our sorrow, burnt.

Dec. 3. London. Holmes and I went to Mr. Lambert's and saw a cone of a new species of *Araucaria*, weight four pounds. It has very large strong spines to the scales.

Dec. 6. Henslow, Laing, Hey, Lingwood and I went by the footway from Grantchester to Haslingfield, and noticed the upper Green-sand in four different localities, viz., a short time before reaching the latter place we passed over a low ridge formed of chalk, and having the sand apparent on each side of it; also on the return by Barton we saw the sand at a short distance on this side of Haslingfield, near to the milestone. The chalk also appearing at the same place we suppose it to be a continuation of the ridge passed on our road to that place. The sand appears in great perfection by the roadside on Barton Common.

Dec. 11. Laing and I traced the outline of the chalk from the spring near Coton quite across Barton Common and over the fields by Grantchester to the footway from Cambridge to the latter place. We saw the upper Green-sand at Coton Spring, on Barton Common (as on 6th), and in Grantchester Lane, near the road going into

Little Grantchester Lane. Saw the junction of the chalk and gault on the upper part of Barton Common but could not ascertain that the sand existed in that place.

Dec. 13. Laing, Henslow, and I traced the chalk near Grantchester and on Shelford Common, which was in a very good state for that purpose, from the new ditches made for the enclosure of the common.

Dec. 22. Left Cambridge for Bury. . . . Went to look at the churches; both fine, but one of them has a modern window in the east end, placed within the old arch. Looked at the Botanic Garden within the Abbey walls. It is of small extent in number of species, but very nicely laid out with grass, etc., amongst the remains of the Abbey. Reached Norwich at 9 p.m. J. L. Brown met me, and took me to his father's house in St. Andrew's Street.

Dec. 23. Walked about the city; saw the castle (being renewed in the style of the original) and the cathedral; it is Norman, having the series of arches in the nave. It has a very lofty spire.

Dec. 24. Went to Mousehold Heath; it appears a nice botanical and entomological ground: dined at Mr. Skipper's, the City Chamberlain.

Dec. 27. Went along the Yarmouth road through Thorpe, and just beyond a toll-gate. Found on the left-hand side a famous pit of Crag formation; it lies upon chalk with flints, and consists of a mixture of sand, more or less hardened, clay, and two or three beds of shells, each about nine inches thick. The shells very much broken and very brittle. The men found a horn, which I obtained.

1835. *Jan.* 2. Went to Melton to see Mr. Soames' Collection of Birds; it is nearly perfect as far as Britain is concerned, and the specimens are very fine, and in excellent preservation.

Jan. 4. Went to church at St. Peter's; it is the largest church in the county, and very fine.

Jan. 5. Took under fir bark *Dromius meridionalis* (note that *D. agilis* is not found here), 4-*notatus*, etc., *Phalaerus corticalis. coccin.* 18-*guttata.*

Jan. 6. Went to Mousehold Heath, and took from under the bark of fir *Scymnus discoïdeus*, and the other regular bark insects.

Jan. 7. Dined with Professor Sedgwick. Norwich election.

"Dear Sir,—Will you excuse short notice and come to a family dinner with me *to-day* at six? You will meet Dr. Ainger, an old Fellow of your College, and one or two friends. My small party has only been formed this morning.—Very truly yours, A. Sedgwick.

"P.S.—If Mr. J. L. Brown will come, pray tell him I will give him an *elastic dinner*, and he may leave me as soon as his partners want him."

Jan. 8. Left Norwich at 7 a.m. and reached Cambridge at about 1.30 p.m. Last day of Cambridge town election.

Jan. 13. Rowlandson has taken five specimens of *Dromius* 4-*signatus* for Power, from the bark of willow trees at Grantchester.

Jan. 15, 16. Cambridge county election.

Jan. 18. Walked with J. A. Power through Histon to Westwick; at the farther side of Histon observed a broad moat surrounding a square spot of ground, and having much the appearance of an old fortification. Near to it is an old mansion house. At Westwick we saw a bed of sandy earth, between two beds of gravel, with perfect mussell shells of cockles in it, some of them with the valves closed; the bed about a foot thick. Came back through Oakington and by the Huntingdon road.

Jan. 21. Rowlandson brought me three specimens of *Dromius* 4-*signatus*, taken at the same place as Jan. 13.

Jan. 22. A large packet of plants arrived from Mr. Borrer.

Jan. 31. A man brought me a specimen of 4-*signatus* from Fulbourn. I have also had two more specimens from Rowlandson.

Feb. 3. I saw a *Meloe* for the first time this year.

Feb. 5. I undertook to look after the Entomological Collection at the Philosophical Society. *Meloes* are now frequent.

Feb. 6. This day I for the first time saw a body dissected; it was by Professor Clark in his lectures.

Feb. 8. Mr. Borrer called with his eldest son, whom he had brought up to Peterhouse.

Feb. 9. Breakfasted with Mr. Borrer and went to the Botanical Garden, etc., with him. He mentioned two new species of *Fedia* having been found in England.

Feb. 10. Whitear came up from Walsingham to spend a few days with me.

Feb. 12. Henslow, Laing, Lingwood, and J. L. Brown dined with me to meet Whitear.

Feb. 18. Attended a meeting at Professor Sedgwick's, to consider what notice should be taken by the Liberal party of the University of the interference and improper influence that had been used by the Tory party at the late election for the town. It was determined to put out a declaration of our abhorrence of such conduct, and three men were appointed to draw one up before next Saturday.

Feb. 21. Walked with Henslow to Westwick by Histon, to see the shells mentioned under Jan. 18. We determined that they were recent, having cinders and charred wood mixed with them.

Feb. 24. Dined with Sedgwick in Hall and wined with him.

Feb. 28. Walked with Henslow, etc., to Madingley, and found a good many mosses.

March 5. First meeting of the Society for Protecting the Independence of the Town. A few members of the University attended, some were admitted Honorary Members, myself amongst the number.

March 7. Broome and I went to Girton and Histon, found a few mosses. I tried for water insects but found nothing whatever. Finished reading Inglis' "Tour in Ireland," recommended by Mr. Burke of Christ's. I like it very much, it has given me a much clearer idea of the state of that Island than I expected.

March 12. Meeting at the Town Hall for the purpose of forming a Mechanics' Institute for Cambridge, Henslow in the chair.

March 15. This day our Morning Chapel was for the first time at 10 o'clock. (*Note.*—It is to be at that hour on Sundays for the future.)

March 16. Our declaration was published.

"Cambridge, *March* 16*th*, 1835.—In consequence of a very general impression, that intimidation and persecution were employed by some members of the University at the late elections for this town, we, the undersigned resident members of the Senate, deem it our duty to make a public declaration of our sentiments on this subject. We look upon the Elective Franchise as a sacred trust, for the conscientious discharge of which a man is deeply responsible; and every species of undue interference, directly or indirectly, with that trust (such as threatening tradesmen with loss of business, or dismissing dependants, for daring to judge and act in opposition to the political principles of their employers) is, in our opinion, a gross breach of public and private morality; being an attempt to constrain a man to do that which his conscience disapproves by appealing to his fears and his interests. We trust that every friend of religion and morality, to whatever party he may belong, will agree with us in condemning proceedings so discreditable, which, by their cruel and degrading operation, tend to destroy the independence, the welfare, and the peace of mind of very many of our fellow countrymen.

"M. Davy, D.D., Master of Caius; J. Lamb, D.D., Master of Corpus Christi; S. Lee, D.D., Trinity, Regius Professor of Hebrew; H. J. H. Bond, M.D., Corpus Christi; J. Cumming, M.A., Trinity, Professor of Chemistry; A. Sedgwick, M.A., Fellow of Trinity, Woodwardian Professor; T. Musgrave, M.A., Fellow of Trinity, Lord Almoner's Professor of Arabic; J. S. Henslow, M.A., St. John's, Professor of Botany; G. B. Airy, M.A., Trinity, Professor of Astronomy; T. S. Hughes, B.D., Emmanuel; J. Romilly, M.A., Fellow of Trinity, Registrary of the University; G. A. Browne, M.A., Fellow of Trinity; J. Bowstead, M.A., Fellow and Tutor of Corpus; C. Thirlwall, M.A., Fellow of Trinity; E. Serocold Pearce, M.A., Jesus; Jos. Shaw, M.A., Fellow of Christ's; G. W. Crawford, M.A., Fellow of King's; H. Gunning, M.A., Christ's; H. Arlett, M.A., Fellow and Tutor of Pembroke; H. Calthrop, Fellow and Bursar of Corpus; T. B. Burcham, M.A., Fellow of Trinity; C. C. Babington, M.A., St. John's; S. W. Waud, M.A., Fellow and Tutor of Magdalene; R. Dawes, M.A., Fellow and Tutor of Downing; P. Blakiston, M.A.,

Emmanuel; H. L. Jones, M.A., Fellow of Magdalene; C. Lofft, M.A., Fellow of King's; J. Croft, M.A., Fellow of Christ's; R. W. Rothman, M.A., Fellow of Trinity; J. Saunders, M.A., Fellow of Sidney; J. Peill, M.A., Fellow and Dean of Queens'; W. D. Rangeley, M.A., Fellow of Queens'; J. Hind, M.A., late Fellow and Tutor of Sidney; St. John Lucas, M.A., Downing; George Thackeray, M.A., Fellow of King's; L. W. Sampson, M.A., Fellow of King's; G. Crauford Heath, M.A., Fellow of King's; R. Sheepshanks, M.A., Fellow of Trinity; H. Battiscombe, M.A., Fellow of King's; James Packe, M.A., Fellow of King's; J. Heaviside, M.A., Fellow and Tutor of Sidney; A. Thurtell, M.A., Fellow of Caius; R. Murphy, M.A., Fellow of Caius; J. Tinkler, M.A., Fellow of Corpus; A. Fitch, M.A., Christ's; B. D. Walsh, M.A., Fellow of Trinity; J. Mills, M.A., Fellow of Pembroke; G. Leapingwell, M.A., Corpus; R. Pashley, M.A., Fellow of Trinity; J. Kemble, M.A., Trinity; J. L. Cameron, M.A., Trinity."

March 26. Collected water insects, took *Hyd. jugularis*, *Hal. subnubilus*; finished my paper on *Hal. ferrugineus* for the Entomological Society.

April 1. Brown and I went to the fens near Baitsbite to hunt for water insects. Took *Halipli impressus*, *obliquus*, *ferrugineus*, *parallelus*, *subnubilus*, etc., *Colym. uliginosus*, etc.

April 2. Brown and I went to the Gogs to look for *Chry. sanguinolenta*, which had been found in plenty a few days before; took a few, also *Haltica antennata* in plenty, as well as a number of *Aphodii*.

April 6. Left Cambridge at 6 a.m. for London. Attended a meeting of the Entomological Society that evening.

April 7. Called on Mr. Hope, but did not see him. Examined the Linnean Cabinet to discover his *Dytiscus ferrugineus* for my paper on *Haliplus ferr.* It turned out to be *Hyphidus ovatus*. Dined with Mr. Spence, and met for the first time J. C. Loudon, Esq., editor of "Magazine of Natural History." Linnean Society in the evening.

April 8. Went to Mr. Stephens'. . . . . and left my paper on *Haliplus ferr.* with him for the Entomological Society.

April 9. Left London for Bath. The hedges almost in leaf, quite green.

April 11. Collected water beetles in the canal. . . . Found in Hampton Wood *Cerasus avium*, in flower. Saw in flower, Paris, Cowslip, *Scilla nutans*, *Anemone nemorosa*, and found *Viola imberbis* on the canal bank, a short distance beyond Bathampton.

April 13. Lawes came to Bath from Biddestone, and we went to a meeting of the Missionary Society at the rooms. Mr. Baptist Noel spoke very well, and Mr. Yates from New Zealand said that their exertions in that Island were being crowned with success. Lawes dined with us, and went home in the evening.

April 15. Gathered a number of specimens of *Oxalis acetosella* at Charlcombe.

April 16. Followed the road from Batheaston to St. Catherine's to nearly the head of the valley, then descended to the brook and found in plenty, and decidedly wild, indigenous, *Narcissus pseudo-narcissus* and *Helleborus viridis*; returned along the other side of the brook. I was particularly struck by the very large quantity of *Allium ursinum* in the lane and on the banks of the brook, also *Anemone nemorosa* and *Oxalis acetosella*. I found a Composite, probably *Doronicum*, on the brook-side at St. Catherine's.

April 20. Saw in Warleigh wood *Euphorbia Lathyris*, apparently indigenous; I never saw it in so truly wild a state and such great plenty.

April 29. Dined with Dr. Totty in Paragon Buildings; met Mr. and two Miss Wrights from Nottingham, very pleasant people.

May 4. Left Bath. In London, attended the Entomological Society Meeting, and heard my paper on *Haliplus ferrugineus* read.

May 5. Linnean Meeting this evening. Mr. Hankey gave me a specimen of *Polygonum dumetorum* found at Wimbledon in a wood by the road-side.

May 6. Entomological Dinner. Kirby, Spence, etc., present. Mr. Stanley (afterwards Bishop of Norwich) said, that the naturalists had two Bibles, other persons but one. Kirby said, that "Nature must agree with Revelation, etc., we need not fear apparent discrepancies."

May 8. The Botanical Class went with Henslow to Coton; found rather a small quantity of the Paris. I took a few small *Staphylinidae*.

May 9. Henslow and I went up the Wimpole road to the foot of the hill, and observed the extent of the chalk in that direction.

May 11. Commenced my "Manual of British Botany."

May 18. Power and I went to Horningsea fen; he took a *Sesia*, I found plenty of *Hylesinus fraxini*, and a few of *Colym. femoralis*.

May 21. I took *Hylesinus crenatus* out of a decaying ash tree at Grantchester.

May 22. The Botanical Class went to Wood Ditton. We found *Listera nidus-avis*, *Carex pendula*, etc., also a white variety of *Ajuga repens*.

May 26. Mr. Borrer came to Cambridge. I was with him all the evening.

May 27. Mr. Borrer and I went to Swaffham Prior, and Dr. Jermyn went with us to Reche fen and the Devil's Ditch. We found *Roemeria violac. (hybrida)*, *Cladium*, *Carex stricta*, etc.

May 29. Botanical Class went to Gamlingay. I worked at Entomology only; found *Chry. rufipes*, *Zeugophora subspinosa*, *Cassida sanguinolenta*, etc.

May 30. This morning I breakfasted with Mr. Borrer at his son's rooms. He gave me *Silene conica*, *Veronica verna*, *Scleranthus perennis*, *Medicago minima*, etc., found by him in Suffolk near to Mildenhall.

June 6. This day the thermometer was 77°, on the 5th it was 57°.

June 10. Dinner to Professor Henslow at the "Hoop," to present to him two pieces of plate from the Cambridge voters and the London reformers. The large room was well filled, and the evening went off very well.

June 11. Left Cambridge with Borrer for his father's at Henfield.

June 12. Mr. Borrer and I went to Amberley, passing through Bramber and Steyning, both small places, but very pretty, particularly the former, at which there is a small part of a castle remaining. At the bridge over the Arum found *Scirpus carinatus*. On the hill to the south of the place found in the hedges *Lonicera Xylosteum*. In the marshes *Potamogeton acutifolius*, etc. Near Henfield *Mespilus germanica*.

June 13. We went with Fanny Borrer and her cousin Catherine to St. Leonard and Tilgate forests, the former is very fine: found *Melittis Melissophyllum*, *Callitriche pedunculata fr. sessile*, *Habenaria brachyglopa*, etc.

June 15. We went to Cross-in-Hand, near Heathfield, through Lewes. On Waldron Down found, in a small stream below a solitary tree, *Sibthorpia Europaea*, *Phyteuma spicatum* (?). Noticed also plenty of the latter in fields to the left of the road beyond Cross-in-Hand. Near Lewes saw *Phyteuma orbiculare*, but not in flower.

June 16. Dr. Broomfield called, and we went to Shoreham, and found *Medicago denticulata*, *Vicia lutea*, *Trifolium stellatum*, and several grasses on the sandy shingle on the further side of the river.

June 17. Gathered plants in Henfield Level, *Potamogeton rufescens*, *lucens*, etc., *Lemna minor* in flower, etc. To Totteridge Green and West Grinstead Common; found on the first *Chara pulchella*, the latter *Alisma Damasonium*, and various *Roses*.

June 18. On Henfield Common, *Centunculus minimus*, *Agrostis pumula*, *Potamogeton oblongus*. After dinner went to Portslade, and found *Alopecurus bulbosus*, *Galium erectum* of English Botany, etc.

June 19. Went to London. Called on Mr. Forster at his bank; also on J. de C. Sowerby; examined the Linnean and Smithian Herbaria about the *Habenaria bifolia* Linnean. Collated various works on the same subject.

June 20. Left St. Katharine's Docks by steamboat for Southend; had a very pleasant voyage down the river. This place is just

two miles beyond the bounds of the port of London, the end of which is marked by an upright stone called the Crowstone. It is a very small place, but so pretty that it is surprising it is not more frequented. Met Mr. and Mrs. Forster and Miss Terry, also Mr. Borrer, by appointment at the Royal Hotel. Found this evening *Lactuca Scariola* and *L. Saligna*, *Medicago maculata* and *M. denticulata*, *Vicia bithynica*, *Crepis biennis*, etc., to the west of the town.

June 21. *Sunday.* Went to church at Southchurch, about a mile-and-a-half off, then walked down to the sea by a footpath, and on the shore found *Coriandrum sativum.*

June 22. Took a car, to botanize. First at Hadleigh Castle, an old ruin, of which only part of two towers remains standing and the foundations of the walls; it is in a fine situation, on the top of a low hill overlooking the flat marshes on the banks of the river. Found amongst the bushes, just below the castle, *Lathyrus hirsutus*; within the walls *Rosa micrantha.* By South Benfleet, across the water to Canvey Island. Found what W. Borrer says is a new *Glyceria.* Passed the chapel, built of wood; and not far from the south side of the island, in a marshy place by the road-side, found *Polypogon monspeliensis* in plenty, and in the fields *Tragopogon porrifolius.* The church at South Benfleet is curious, particularly the east window, which is divided by such large mullions as to almost form a number of separate lancet-shaped windows.

June 23. Borrer and I returned to London by the coach through Rochford, Billericay, Brentwood, etc., and I returned to Cambridge that evening.

June 24. Power told me that the number of *Sturmia Loeselii* in Burwell Fen was enormous.

June 27. Returned to Henfield.

June 29. Went to Changtonbury, a lofty chalk hill near to Steyning; the view from it is very fine, saw Chichester Cathedral on one side, and the hills above Hastings on the other. Looked for *Herminium Monorchis*, but could not find it. Found *Pterogonium Smithii* in fruit on trees near the hill.

June 30. Gathered *Lotus tenuis* in plenty in fields near to Henfield, distinguished at sight by its long, prostrate, much branched stems. Wrote the greater part of my paper on *O. bifolia* Linn., which is intended for the Linnean Society; I give it to that Society at the request of Mr. Edward Forster.

July 1. To Slinfold. Found plenty of *Euphorbia corraloïdes*; and returned by Horsham. Found in St. Leonard's Forest *Spergula subulata*, and *Erythraea pulchella* on the road-side. Gathered also in the hedge near Cowfold a semi-double *Rose*, mentioned in Hooker, ed. 3, under *R. arvensis.*

July 2. Went in a large party to see the Roman pavement at

Bignor; it is in a very fine state of preservation. Gathered at it *Crepis virens.*

July 3. To Shoreham to meet Mr. Trevelyan, but missed by accident. Went into the church, a very fine old Saxon edifice. Crossed the suspension bridge to Worthing, a nice town, found *Bupleurum tenuissimum*, *Rottboellia*, and on our return *Phyteuma orbiculare.*

July 4. Determined that all the plants called *Crepis tectorum* in this neighbourhood belong to *C. virens*; a specimen of the former Mr. Borrer showed me from France, not named, but which could not admit of doubt.

July 7. Gathered *Carex strigosa* at Hurst. Drew up descriptions on three species of *Herniaria* from plants in Mr. Borrer's garden.

July 8. Drew up descriptions of *Crepis virens*, *tectorum*, etc.

July 9. Determined the *Polygonum marinum* of Ray to be *Polygonum maritimum* Linn., *i.e.* a variety of it, and the plant found at Christchurch, Hants, to be the true Linnean plant, now made a species under the name of *P. Raii.*

July 11. Went to London, called on Mr. Forster, and went with him to Woodbridge in the evening.

July 12. Mr. Forster and I went to Woodford Bridge, and found *Villarsia nymphaeoïdes*; and to Hainhault Forest, and found in a pond near the Fairholm Oak green *Chara translucens.*

July 14. Arrived at James Gisborne's at Barton-under-Needwood.

July 15. Found two varieties of *Crepis virens*, which are probably the *C. stricta* and *C. pinnatifida* of continental authors.

July 16. Went to Lushpool, found a *Chara*, probably *pulchella.*

July 17. Went to Forest Church, and found *O. Chlorantha* in the wood near it.

July 20. Determined that the same plant of *Zannichellia palustris* has anthers with two, three, or four cells.

July 23. Left Barton, and saw Mr. Borrer at Birmingham.

July 24. Dined with Leighton at Shrewsbury.

July 25. Mr. Borrer, William Borrer, and I went to Llangollen; we ascended the Eagle crags, did not find much, but a most beautiful view.

July 26. Walked by the canal side, and then along the road to Valle Crucis Abbey. Gathered *Rumex pratensis* by the canal.

July 27. Ascended Castle Dinas Bran in the morning, and gathered *Pyrus Aria intermedia* on the wall: the walls are very thick, and it must have been a very formidable fortification. It is well worth a visit. . . . . By coach to Bangor, saw Mr. Roberts the botanist.

July 28. By coach to Carnarvon and Llanberis. Ascended to Twll Dû, and found very little.

July 29. Mr. Roberts again joined us, and we botanized in Clogwyn-du'-r-arddu; the *Arabis petraea* in the greatest perfection. Then ascended to the top, and found a few specimens *Gymnost. Griffithianum.*

July 30. We went in a car to the head of the Pass, and then walked to Clogwyn-y-Garnedd, but not having taken the right road, we coasted the lakes in the hollow of the mountain, and ascended from them. Did not find the *Woodsia*, for which we went. Returned to the head of the Pass by the true path under Crib Coch. Slept at Capel Curig.

July 31. To Beddgelert. Ascended Dinas Emrys, found on it *Eriophorum gracile* and *Carum verticillatum* in plenty. Returned to Capel Curig.

Aug. 1. To Llyn Idwal. Found *Chara gracilis* of Wilson; it appears to be a variety of *flexilis*; and below the fall of the Ogwen gathered *Hieracium strictum* (?).

Aug. 2. *Sunday.* At Bangor.

Aug. 3. Mr. Borrer and I went to Beaumaris and Mona Inn, from thence to Llyn Mealog, and found *Callitriche autumnalis*, *Elatine hexandra*, *Scirpus Savii*, etc. Returned to Mona.

Aug. 4. To Llyn Coron. Could not find the *Elatine.* Saw *Viola Curtisii*, *Erythraea litoralis*, *Viola flavicorius*, etc.; the three last also at Malltraeth Sands. To Newborough. Met with a young man of the name of Horatio Davies there, and a gentleman's servant, who were both of them botanists. Found on the sands near to Llanddwyn Abbey *Polygonum Raii* (one specimen), at the Abbey *Crithmum maritimum*, *Euphorbia Paralias*, and *E. Portlandica*, *Lavatera arborea*, *Scirpus Savii* by a spring on the road from Newborough. Returned to Bangor.

Aug. 5. Gathered *Rosa Wilsoni.* Went to Holyhead. Parted from Mr. Borrer.

Aug. 6. To the South Stack Lighthouse; the contorted rocks there are very curious. Found *Scirpus Savii* in several places in the island. Gathered *Erythraea latifolia*, *Helianthemum guttatum*, *Lotus corniculatus* (various), *Gentiana campestris*, *Chara pulchella*, etc. Left for Dublin at 11 p.m. by the steam packet. Rough voyage, slept well.

Aug. 7. Went to the College, and got my ticket for the British Association Meeting. Called on Mr. J. T. Mackay at the College Botanical Garden. He introduced me to the Rev. Mr. Maclean and Rev. Mr. Todd, Fellows of Trinity College; and they gave me rooms in the College, No. xxiv., two stairs, door to right. Dined with Mackay.

Aug. 8. Breakfasted with Mr. Todd. . . . Dined in Hall. . . . In the evening went to a party given by the College of Physicians; did not break up till late: a lecture, and then supper.

Aug. 9. *Sunday.* Went to Christchurch; a modernized church, spoiled by being so.

Aug. 11. Dined in the gardens of the Zoological Society; the public admitted in the evening, when 8000 people were present.

Aug. 13. Went with Mackay and others by the railroad to Kingstown, and by car to Killiney Hill; on the sands near which found *Polygonum intermedium*, etc.

Aug. 14. Breakfasted at the Dublin Society's Botanical Garden, Glasnevin; at 12 noon started sixteen in company, for Howth Hill. At Baldoyle we saw *Viola Curtisii*, *Carex distans*, *Blysmus rufus*, *Statice spath.*, etc. Howth Hill is very fine, and gives a beautiful view of Dublin Bay.

Aug. 15. Last day of the Meeting. Trinity College dined 300 in the Examination Hall: the dinner most splendid. Before dinner the Lord Lieutenant (Lord Mulgrave) knighted Professor Hamilton in the College Library.

Aug. 19. Mr. Maclean, Mr. Mackay, Mr. Cullagh, and I went by the canal to Lexlip; saw Mr. Cavendish's place there, and found on ivy *Orobanche minor*. There is a very pretty waterfall there, called the Salmon leap. Returned by Lucan and Palmerstown.

Aug. 20. Left Dublin by coach at 8.30 a.m. for Birr or Parsonstown. After passing Naas, at Kildare, saw the first of the celebrated Round Towers; it is, if I do not mistake, one of the finest in Ireland; near it are the remains of an old monastic building, in much greater decay than the Tower. Passed the following towns: Monasterevan, Portarlington, Mount Mellick. (*Note.*—All the places mentioned above show evident marks of not being in a prosperous state.) Reached Birr at about 6.15 p.m., and proceeded in a car to Portumna.

Aug. 21. Mr. Ball and his son came to meet the Lord Lieutenant (Lord Mulgrave), who took lunch at the castle. After he was gone, J. Ball and I went to the castle, Lady Clanricarde wishing us to dine and sleep there.

Aug. 22. We walked in the morning to a spot some distance down the lake to have a view of Lough Dearg. It is very fine from thence, *i.e.* from a hill covered by a long plantation. Saw *Gentiana campestris* and *G. Amarella*, *Chara hispida*, *Juniperus communis*, etc. Started for Loughrea.

Aug. 23. *Sunday.* Breakfasted with Mr. Daly, of Mount Pleasant; and after church went with Charles Burke to Marble Hill.

Aug. 24. Lady Burke and Charles Burke having gone to Galway to meet Lord Mulgrave, we walked round the neighbourhood of Marble Hill, particularly near to a lake, but found little.

Aug. 25. Started at 7 a.m. for Galway. The country particularly remarkable for the quantity of stones with which it is covered; it has a very dreary aspect. Galway is a large old town, with many curious houses of great antiquity. In the fish market we noticed a great quantity of sea-bream, split and dried. From the bridge saw a number of fine salmon, at the bottom of the river, on their way to Lough Corrib. Started by the mail car for Oughterard; the car was the most rough conveyance I ever was upon. Oughterard is a very pretty place, having a small waterfall close to it. Found *Utricularia media* in a bog beyond the town. In the evening called upon Dr. Kirwan, the parish priest of this place. He is a very nice gentleman-like person. . . . he gave us much useful information.

Aug. 26. After breakfast crossed the river, and found in the bog *Rhynchospora fusca* in plenty, *R. alba* formed, with *Eleocharis paniciflora*, nearly the whole of the vegetation of the bogs. *Drosera longifolia*, *anglica*, and *rotundifolia* were common. *Menziesia dabeocia* in plenty on the hills. After passing a part of the rocky mountain land, we found at a lake *Eriocaulon septangulare* in plenty. Returned by the river, and then through a cornfield, in which we found *Fedia carinata*. In the evening we went to a castle, curiously situated upon a natural bridge over a small river; the architecture was singular, and the whole in good preservation. The country was most interesting, on account of its being limestone, full of caverns in horizontal strata, and forming natural bridges in many places.

Aug. 27. Found an *Aspidium*, perhaps *cristatum*, in the bog.

Aug. 28. Started by car for Maam, or Lough Corrib Head Hotel, at 9 a.m., and found by the way *Eriocaulon septangulare* in a lake. The country is quite full of lakes, and flat, being enclosed between two ranges of lofty mountains. After following the Ballanahinch road for eight miles, we turned off to the left for four miles between two lofty mountains, and at the head of Lough Corrib is situated the small inn. Soon after our arrival we went up the mountain behind the house, and found *Saxifraga umbrosa* β *punctata*: there was a fine view from the top. . . . the top is great part of it occupied by a bog.

Aug. 29. We went up the mountain opposite to the inn, on the right of the Galway road: the hill is called Shanfolagh, and is very easy of access. From the top I counted 175 lakes, most of them in Connemara, which is divided from Joyce's country by this hill, and the others of its range; descended by a recess on the north side, and saw plenty of *Saxifraga umbrosa*, *S. stellaris*, *Hymenophyllum Wilsoni* in one place; on the top *Juniperus nana*. In the evening we went along the road towards the Killeries, until we came to the

second brook running from the mountains; ascended it for a short distance, and found near to a small waterfall *Saxifraga Geum* in plenty.

Aug. 30. Being Sunday we did not go far from home, but walked down the Cong road to the upper part of Lough Corrib.

Aug. 31. Started this morning in a taxed cart to make a tour of Connemara. We ascended the river that runs by the Maam inn until we passed over the watershed, between Lough Corrib and the Killery, then descended to the head of that bay. The country is one mass of mountains the whole distance, but well covered with grass, and feeding a large number of sheep and cattle. Lenane, at the head of Killery harbour, is a very poor place; on the shore we saw the usual sea plants, such as *Glaux*, *Statice*, *Armeria*, *Plantago Coronopus*, *Aster tripolium*, etc. The harbour is very narrow, more than seven miles in length, and bounded by very lofty mountains. We proceeded over a new road formed through an extensive bog till we reached the north side of the "Twelve Pins" of Benbuola, then skirting a lake, we left the Clifden road and turned north to Tully, a very poor place, and searched the sea-side there for *Arabis ciliata*. Did not find it. *Cladium Mariscus*, *Spartium scoparium* in plenty, and *Arundo arenaria*.

Sept. 1. Started before breakfast, and fell in with a party who were on their way to Clifden Fair. We noticed by the way that *Ulex Europaeus* became more and more scarce, and *Ulex nanus* extremely plentiful. Clifden is a very neat town, situated upon a deep estuary. After breakfast we walked about the town, and then proceeded to Roundstone by the inland road. For the first mile the road passed the head of a number of small inlets of the sea, and turning inland passed over about five miles of the most barren country that we saw in the districts; it consists of bog upon a stratum of Hornblende slate, protruding in numerous places, the number of small lakes being quite astonishing. The vegetation consists solely of the following plants: *Schoenus nigricans*, *Molinia caerulea*, common; *Eriophorum angustifolium*, *Ulex nanus*, *Rhynchospora alba*, far from common, the two mentioned above nearly forming the whole herbage of the country. The other plants noticed were *Potentilla tormentilla*, *Myrica gale*, *Calluna vulgaris*, *Erica tetralix*, rare; *Erica cineria*, *Narthecium ossifragum*, *Drosera anglica*, and *rotundifolia*, very rare. At Roundstone we found Mr. William MacCalla, the son of the hotel-keeper, who showed us *Arbutus* in situ, and took us to the station of *Erica mediterranea* in Glan Iska on Urrisbeg mountain; it extends in very large quantities down a boggy valley. He also showed a station for *Adiantum Capillus-Veneris* on a rock facing south-west on the bank of Lough Bulard. The specimens are small, but in fructification. In the evening he showed us his collections of shells, etc.

Sept. 2. This morning we went to see some plants in Roundstone and Burtaby Bays. In the first found on Illan Glas an *Allium* not made out (*Allium Babingtonii Borr.*), and in the latter on a rocky island near to its head, called Cruigneit, *Inula Helenium* in plenty. Started for Maam. MacCalla, Lingwood, and I crossed the bogs for two or three miles to Craigha Moira, a low mass of rock by the side of the road to Clifden, on which he showed us a new Heath nearly allied to *E. tetralix.* We then rejoined our car, and proceeded by Ballanahinch, a large house in a fine situation, but much in want of trees about it, to Mr. S——'s inn. Soon after leaving that place we struck into the track that leads over the mountains to Maam. . . . we were detained upon the top of the Pass until it was too dark to find our way across the bog in a direct line, so we followed the track to left, and at length got to a small hamlet, divided from the Lenane road by a bog and the river. Here we asked directions, but from the people not understanding English, got very bad ones, and soon found ourselves in a bog, through which we could not pass, and all three got in up to our waists. Then returned to the house, and obtained a guide, who took us again into the bog, and through it by walking down a *ditch* of running water, we then forded the river, and got to Maam at 10 p.m.

Sept. 3. Left Maam in company with Professor Daubeny, of Oxford, and arrived that evening at Galway.

Sept. 4. By coach to Limerick, through Gort, Ennis, Clare, and Burratty. The latter part of the country is very fine and rich, said to be the best in Ireland; the early part curiously covered with detached blocks of limestone, as near Galway.

Sept. 5. Travelled by one of Bianconi's cars to Killarney; the country very uninteresting, the town very bad.

Sept. 6. Went with two gentlemen in a car to the Gap of Dunloe, and then by the lakes to the town. The Gap is a fine mountain pass, and the lakes are full of interest and beauty. We saw on the islands the *Arbutus Unedo*, truly wild, and in plenty.

Sept. 7. Went to Mucross Abbey. It is in good preservation, and well worthy of inspection. Proceeded to Turk waterfall. Found *Trichomanes brevisetum.* Proceeded the same evening to Kenmare by car.

Sept. 8. Walked out with Dr. Taylor, of Dunkerron; he showed us in his plantations a plant of *Pinus Lambertianus*, ten feet high, and in great beauty, also *Araucaria imbricata*, in his garden, four feet high in the open air. Dined with him. He gave me a number of plants.

Sept. 9. With Dr. Taylor. He showed me at Blackwater Bridge a number of *Cryptogamous* plants.

Sept. 10. Left Kenmare by mail car at 4.30 a.m., and took the mail at Killarney for Cork.

Sept. 11. Walked about Cork: a fine, clean, well-built town. Started by the mail for Dublin; passing through Clonmell, Kilkenny, Carlow, Naas. The early part of the road of the country is in a high state of cultivation.

Sept. 13. Arrived at Holyhead; proceeded by the mail at 4.15 a.m., and reached Shrewsbury at 1. Called on Leighton, and took up my quarters at his house.

Sept. 14. Went to Bomere, and saw plenty of *Scheuchzeria palustris* in leaf, *Utricularia minor*, etc.

Sept. 21. To Cambridge.

Sept. 28. Went with J. A. Power to Dr. Jermyn's, at Swaffham Prior. He gave me some mosses, etc.

Sept. 29. Dr. Jermyn and I went to near Bury to look for *Herniaria glabra*, but could not find it. Saw plenty of *Carduus crispus*, but no *C. acanthoïdes*.

Oct. 6. Examined plants at the Linnean Society.

Oct. 11. J. Ball called upon me. He came up for the first time the evening before.

Oct. 12. Put him into College (Christ's).

Oct. 18, 19. The comet was seen peculiarly well both these nights; it appeared to have a tail of the length of a yard, which must have been very extensive.

Nov. 6. Meeting of the Philosophical Society. I was elected a member of the Council. Dined with the Society at the "Eagle." Sixteen members present.

Nov. 12. Finished my paper on "Certain imperfectly understood British Plants" for the Linnean Society. I was elected an honorary member of the Shropshire and North Wales Natural History Society.

Nov. 17. Dined with Professor Sedgwick, and was proposed as a Fellow of the Geological Society.

Nov. 27. Went to London to complete paper for the Linnean Society, as it still wanted some alteration. Went in the evening to Mr. E. Forster's, at Woodford.

Dec. 1. Part of my paper was read at the Linnean Society.

Dec. 5. Henslow and I went to hunt for Green-sand near Haslingfield.

Dec. 21. Left Cambridge for Christmas, to spend a short time with my friend Holmes at St. Margaret's, Southelmham.

Dec. 23. We went to see an old ecclesiastical building, called "The Minster." It is in so decayed a state that I could make nothing of it.

Dec. 25. *Christmas Day.* The churches of St. Margaret's and St. Peter's are small, but neat, and have originally been in a correct style of architecture. They have been much injured by repairs.

Dec. 28. Dined at Gaudy Hall with W. Holmes and his mother. . . . . There is a large quantity of fine timber near to the house, having apparently a very large number of lichens upon them.

1836. *Jan.* 8. Went to Flixton Hall, the seat of Mr. Adair. It is a very fine old place, both externally and internally.

Jan. 12. Cambridge.

Jan. 23. Degree day. Lingwood took his degree.

Feb. 1. Dined with Lingwood, his farewell dinner at the "Eagle."

Feb. 3. He left Cambridge.

Feb. 4. Election of Public Orator in the place of Mr. Tatham. Mr. Berkeley, Author of "British Fungi," called upon me for the first time.

Feb. 12. Received a corrected proof of my paper on Connemara to appear in the next number of "Loudon's Magazine;" it was enclosed in a "frank" from L. W. Dillwyn, the naturalist.

March 5. Walked to Cherry Hinton and Shelford. The *Helleborus foetidus* just in flower, and *H. viridis* also. Saw *Primrose* in flower, *Veronica hederifolia* also.

March 18. Walked to Fulbourn and found *Helleborus foetidus* in perfection, *Tussilago Farfara*, *Veronica agrestis*, *Viola odorata*, *Ranunculus Ficaria*, and *Nut* just out.

March 23. Left Cambridge for Bath. In the evening went to a meeting of the Geological Society, and was admitted a member by the President.

March 24. Showed the Geological Museum to J. Ball. Called with him upon Lingwood. Dined with Ball and his father (the new Member for Clonmell) at the Burlington Hotel.

April 1. *Good Friday.* (Bath), a heavy fall of snow which partially melted as it fell, made the streets almost impassable.

April 19. Left Bath for Cambridge. I had a pleasant journey on account of meeting on the coach Mr. W. F. Beadon, who was up at the same time with me as an undergraduate. Went to Linnean meeting.

April 20. Breakfasted with J. Forbes Royle, and undertook to examine and describe his East Indian *Polygoneae*. Went to Stephens' in the evening. *April* 21. Cambridge.

April 22. A very fine Aurora Borealis this evening; I saw it from the Clare Hall bridge.

April 27. Election of Public Orator. Crick has a majority of forty-one over Thorp.

May 6. St. John's Feast. The Rev. M. Prickett dined with me in Hall.

May 10. Henslow found *Ranunculus parviflorus* at Bourn.

May 11. The election of an Architect for the new Library. The three who had sent in plans were Wilkins, Rickman, and Cockerell. The numbers were R. 9; W. 0; C. 60.

May 15. An eclipse of the sun, nearly annular; the day very fine.

May 19. Walked to the Gogs, but found nothing. The plants usually in full flower did not show themselves at all. . . . . This evening attended a Geological Lecture by Sedgwick, to the Mechanics' Institute, in the great room at the Red Lion. He lectured for two hours.

May 20. Botanical party to Gamlingay; started at 8 o'clock, reached that place at 11. Worked at Entomology till 3.45, and took numerous specimens of *Aphanisticus pusillus*, *Cassida sanguinolenta*, and *Chrysomela fufipes*.

May 28. Henslow and I walked to Cherry Hinton and Fulbourn; at the latter place we found *Arenaria tenuifolia* in flower on the churchyard wall. In a pit there plenty of *Hippuris*, and *Equisetum limosum*, and *palustre*.

June 7. Went with Lowe to Haslingfield; we found *Ranunculus hirsutus* on Barton Common, near to the town, *R. parviflorus* by the road side (left hand) at about half-a-mile from Haslingfield, *Lemna gibba* just beyond Barton, and *Lonicera caprifolium* near the foot road to Haslingfield, not far from that place in a small thicket. 2 p.m. Whitear came; he and Laing dined with me, and Holmes came in unexpectedly.

June 10. Whitear and I went to London. I worked at the Indian Herbarium at the Linnean.

June 11. We inspected the plans for the New Houses of Parliament. Returned to Cambridge.

June 15. We went to Swaffham with Henslow to go into the fens below Reche. Found *Liparis Loeselii* in plenty, also *Chara hyalina* and numerous other plants.

June 17. Left Cambridge for the summer.

June 20. Left Birmingham, and passing through Tamworth, at which is a fine old but inhabited castle, and Ashby-de-la-Zouch, reached Thringstone. M. D. Babington's house is very well placed,

having a full view of the Charnwood Forest Hills. Churchill Babington and I walked as far as the nearer part of the forest, and he showed me *Alyssum calycinum* growing in a field of clover, and *Medicago lupulina*. Mr. A. Bloxam dined at my cousin's.

June 21. A wet day. I fished in the hot water from a steam engine of a coal mine, and found plenty of *Hydroperus geminus*.

June 23. We went to Grace Dieu and hunted some water, but with bad success. Also botanized in a fine wood in which grows *Pulmonaria officinalis* (did not find it) and *Hieracium paludosum*, etc. At Grace Dieu are the ruins of a small abbey; only a few walls remain.

June 24. We walked to the old reservoir of the canal. It is now nearly dry, being only a rather wet bog. About twenty-five years since the lofty bank burst, and it has never been repaired. Saw near to its mouth *Nasturtium*, and not far down the stream, on rubbish from the old bank, *Moenchia erecta*, etc.

June 27. To Shrewsbury.—*June* 29. By coach to Bangor.

June 30. By coach to Conway, and car to Llandudno. Found *Helianthemum canum* on the rocks above the village; *Cotoneaster vulgaris* on rocks above a house called "Tyn-y-Coed"; on the sands *Taraxicum levigatum*.

July 1. Went to the Little Orme's Head and found *Sedum Forsterianum* (?) on the eastern side; in corn near the same spot *Fedia auricula*; in a wet field between the two Heads plenty of *Lathyrus palustris*; and on the sea-side towards Conway *Convolvulus Soldanella*.

July 2. To Holyhead, and passed over by the packet to Dublin, sailing at 11.15. Arrived at Kingstown at 6.5 a.m.

July 5. As it was Trinity College Commemoration I went to be admitted to my M.A. degree.

July 6. Breakfasted with Mr. Mackay, and were joined by a gentleman from Potsdam of the name of Hecht. He proved a very pleasant man and was an agreeable companion for the day's trip to Powerscourt. We went by Donnybrook, Dundrum, Killgobbin, and Enniskerry. The gardens and grounds of Powerscourt are very fine. . . The waterfall was nearly dry, but the amphitheatre of wooded hills about it is quite worth a visit. By the fall I gathered *Aspidium Thelypteris*, and on a bank on the right hand side of the stream *Aspidium dumetorum*. We afterwards obtained *A. angulare*. Returned by Bray to Dublin.

July 8. Started, in company with Mr. Mackay and Mr. Whitla, for a trip in the co. Wicklow. We went by Enniskerry, near which we found a variety of the *Crataegus oxyacantha* with the petals red and permanent upon the fruit, also plenty of *Epipactis palustris*. Near Powerscourt saw *Aspidium angulare* and *Hypericum calycinum*.

Passed through the Glen of the Downs, a fine wooded ravine in the mountains. Near the little town of Newtownmountkennedy, saw *Rosa micrantha*. We reached Mr. Nuttall's place at about 6. Near to Mr. Nuttall's house gathered very fine specimens of *Botrychium Lunaria*. This is a small house (Tittour, or more correctly, Tithewes) in the mountains, round which that gentleman has planted extensively with numerous species of fir and other trees.

July 9. We went to-day, in company with Mr. and Miss Nuttall, to Glendalough. Near a church called Derralossary found *Rosa scrabiuscula* of Fl. Hibern., and in a bog near Anamoe *Pinguicula lusitanica*. The ruins at Glendalough are churches and a Round Tower. The churches are of the plain semicircular arch . . . the earliest style of Christian building. They are formed of stones squared and carved for some older building. Not so the Tower. I went to the waterfall at the upper end of the glen, but found no plants of interest. (N.B.—It deserves to be well examined.) In a boggy spot at the lower end of the lake, on the left hand side of the river, we found a *Malaxis paludosa*.

July 10. Left Mr. Nuttall's after gathering *Botrychium Lunaria* and *Holcus mollis*. We proceeded by Luggalow, a mountain hollow in which Mr. Latouche has a house, and has well covered the sides with wood so as to make a beautiful spot. On the mountain above it we found *Eriophorum polystachion*. Lough Bray is a bare lake with a gentleman's house on its bank. Had a glorious view of Dublin from the hills as we descended by the military road.

July 11. Dined with Mackay. In the Botanic Garden noticed two forms of *Dryas octopetala*.

July 12. Went to Killiney and found plenty of *Polygonum Raii*.

July 13. Went with Mackay to the Glasnevin Botanic Garden.

July 14. Left Dublin by the Westport mail at 7.45 p.m. Was fortunate in having a pleasant companion, the Rev. G. R. Gildea, of Killmain, near Hollymount (Roundfort), Mayo. We left the Galway coach at Ballinasloe (where there is a good inn) and passed through Tuam, a very poor place, and Castlebar, also a poor place. Between Tuam and Castlebar the view of the mountains is very fine. The view also just before entering Westport is well worthy of notice. In the evening I walked down to the quay, about a mile, and was much pleased with the grand outline of Croagh Patrick. The quay is small but convenient. Lord Sligo's park is good and the house a fine one.

July 16. Walked through the park, and along the right side of the estuary, not keeping close to the water for some miles. The land is curiously intersected by the sea, and forms a multitude of small peninsulas and islands, all of them cultivated. Mr. Chamberlain, of Christ Church, Oxford, came in; he is a pleasant man.

On July 16, at Westport, found the following: *Scrophularia nodosa*, *Sonchus oleraceus*, *Sonchus asper*, *Circaea lutetiana*, *Veronica agrestis*, *V. polita*.

In a bog near the sea: *Plantago maritima*, *Triglochin maritimum*, *Linum catharticum*, *Glaux maritima*, *Spergula nodosa*, *Samolus Valerandi*, *Rumex Hydrolapathum*, *Anagallis tenella*, *Carduus pratensis*, *Ranunculus hederaceus*, *Hypericum humifusum*, *Phalaris arundinacea*.

In crossing the bogs towards Nephin I noticed the following plants on the mountain: *Rhyncospora alba*, *Solidago cambrica*, *Drosera anglica*, *Saxifraga umbrosa* β, *Drosera rotundifolia*, *Vaccinium Vitis-idaea*, *Schoenus nigricans*, *Empetrum nigrum*, *Gnaphalium rectum*, *Melampyrum sylvaticum*, *Peplis portula*.

At Lough Clunon the following plants: *Carduus pratensis*, *Eriophorum angustifolium*, *Erica tetralix*, *Erica cinerea*, *Potentilla comarum*, *Myrica gale*, *Lobelia Dortmanna*, *Habenaria chlorantha*, *Polypodium vulgare*, *Blechnum boreale*, *Hieracium paludosum*, *Hypericum pulchrum*.

At Glen Island: *Polygonum persicaria*, *Chrysanthemum leucanthemum*, *Raphanus Raphanistrum*, *Pedicularis palustris*, *Aspidium dilatatum*, *Var. concavum*, *Athyrium Filix-femina*.

The natural woods under Nephin consist of holly, *Pyrus aucuparia*, *Quercus robur*, alder, birch, and hazel. In them found *Carex extensa*, and *Valeriana officinalis*. Mr. Daly holds two farms, one of them consisting of about sixty acres (mostly bog), rent £12.

July 17. *Sunday.* Mr. Chamberlain and I went to church, and to prayers in the schoolroom in the evening.

July 18. Started for the Mullet in a car. The early part of the road far from interesting. But soon after, we entered the mountains, and reached a small place called Glen Island, near which I examined some rocks, and found the reversed variety of *Aspidium dilatatum*, and a curious form of *Athyrium Filix-femina*. The rest of the road to Tom Daly's, at which we stopped in a small house kept by Mr. T. Daly, was finely mountainous, passing under the end of Nephin mountain, and close to some natural woods, the only ones I have seen in Ireland.

July 19. Proceeded to Bellmullet. Soon after leaving Daly's the road enters upon a very extensive bog. The view of the mountains now opens on both sides; on the right Nephin, a large, gradually rounded hill, occupies nearly the whole attention, and on the left appear the fine hills called Nephin Beg and Cursleive, on which yet remain a few wild red deer. This bog would most of it admit of cultivation, as is shown by numerous spots of reclaimed land, dispersed at long intervals over its surface. Near to Daly's the subsoil is a loose sandstone, and limestone is near at hand. After some miles we reached a fine river, the Owenmore, at a place called Bealacorrig, crossed by a bridge of four arches, which is placed at a point where three rivers join, two coming from the northern

hills and bogs, and the other from the mountains near to Cursleive. This is the boundary between Tirawly and Erris. Soon after crossing this river, the road descends into a glen, through which the Owenmore flows. The hills bounding it are moderately high and rather steep, but want trees to give them beauty. If planted, I do not suppose that it would be surpassed by any vale in the kingdom. At the end of Glenco is the very poor place named Bangor, consisting of a few cabins, and two moderately good houses, one of them an inn. Here opens a fine view of the mountains of Achill towards the south-west. Another rather extensive bog now occurs, bounded to the north by Lough Garrowmore. At the termination of the bog is a curious pass into Glen Castle; the road is cut out of the rock on one side, and a river occupies the whole space at the bottom. The valley gradually widens until it terminates in an open undulating country, which extends on all sides, as far as the sea. Far to the north is soon seen Ben Wee, a sea cliff quite perpendicular, proved by a late measurement of the coast-guards' officers to be 1100 feet high. At the distance of two or three miles from the end of Glen Castle, the summit of a hill commands a view north of Broad Haven, and south of Black Sod Bay, terminated in that direction by the lofty mountains Slievemore and Saddlehead in Achill. From the same point the whole Mullet is seen stretching north and south, and strongly marked by its numerous white sand hills; the church of Binghamstown also is a very conspicuous object.

July 20. Bellmullet: this is a nice little town, consisting of three streets proceeding from the angles of a small square or market place. The fourth street is not built. Many of the houses are good, and the whole place wears a flourishing appearance. The isthmus is so narrow that the houses extend from one bay to the other. I walked out after breakfast towards the northern part of the Mullet; it is rather high, and all bog. I noticed in the bogs *Schoenus nigricans*, *Drosera rotundifolia*, *Helosciadium nodosum* in ditches. In a few cultivated spots *Carduus pratensis*, *Senecio viscosus*, and amongst flax *Camelina sativa*. I then returned towards the Binghamstown road, and saw *Osmunda regalis*, *Myosotis repens*, and *Oenanthe crocata*. I then crossed the sand hills towards the sea, and followed the coast of the Atlantic for some miles. The plants *Scirpus Savii*, *Arenaria peploides*, *Glaux maritima*, *Plantago coronopus* very small. *Spergula nodosa*, *Anthyllis vulneraria*, and in wetter places *Orchis latifolia* and *maculata*. Also *Papaver dubium*. On reaching a large lake, called Cross Lake, I turned inland, and in a lane on the way to Drumshea found plenty of *Callitriche pedunculata*. Passed through Binghamstown; this place is quite a failure, as most of the buildings are without roofs. Soon after passing the town I found *Rumex pratensis* in a ditch by the road-side. I saw in the pastures plenty of *Lathyrus pratensis* and *Vicia cracca*. (N.B.—On the coast were numbers of a purple *Medusa*, about one-and-a-half

inch long and one inch broad, having a vertical sail-like transparent membrane placed diagonally above, and numerous short tentaculae proceeding from the central part beneath.)

July 21. Took my car as far as Bingham Castle. The latter part of the road is loose sand. The castle is low and extensive; it has a good appearance, and is well situated. Two towers with low wings terminating in small towers. Leaving the car I walked to the end of the Mullet. A large portion of its surface is occupied by drifting sand. The extremity is formed of low hills of granite, from which is a glorious view of the Erris mountains and those of Achill, which is but few miles distant.

July 22. Left the Mullet this morning, and spent half-an-hour in Glen Castle, where I noticed *Hypericum Androsoemum* and *Scirpus Savii*, also some plants of *Athyrium Filix-femina*, fully five feet in height. I also took one specimen of *Carabus clathratus*. Breakfasted at Bangor, and then walked nearly the whole length of Glenco. Saw the following plants: *Habenaria Chlorantha*, *Potentilla comarum*, *Myosotis repens*, *Carex ovalis*, *Myosotis caespitosa*, and *Hypericum quadrangulum*. Stopped that night at Daly's, under Ben Corrough; seventeen miles from the Mullet, and twenty-six from Westport.

July 23. Left Daly's, and proceeded along the former route as far as the end of Lough Beltra, then turned to the right, and reached Newport by a bad road. This is a very poor place, having been ruined by Westport. . . . Reached Westport.

July 24. *Sunday.* At church, as on the 17th.

July 26. Went to Delphi. The road is fine, near the middle it ascends a mountain pass, being carried along the side of the mountain by cutting away the rock. Lough Dhu is finely situated, but the best view is from below the lower lake, from thence the mountains are very grand.

July 28. Crossed the Killery at Bunderrough, and walked to Maam. . . . Gathered between Delphi and Bunderrough, and also near Lenane, *Eriophorum polystachion* in the bogs. Was informed at Delphi that two kinds of bog deal are found near to that place: (1) twisted in the stem, burns with a clear flame, is used for torches, and is called *Corchep* by the people; (2) is not twisted and is used for timber much more than the other, does not burn so clearly, nor has it the same fine scent. Mr. Browne of Delphi says that the cones are often found; he has promised to look out for them, and keep some for me.

July 29. Very stormy. Took a few water insects and gathered *Myosotis repens.*

July 30. Took a car as far as Steely's, and then walked on to Roundstone. I followed the new road which passes close under the "Pins," and behind the house at Ballanahinch. This is a far more

interesting line than the other. On the lake behind the house is an odd looking old building, said to have been used by the late Mr. Martin as a prison. By the side of the Ballanahinch river I found *Rhynchospora fusca*. In the evening Mr. MacCalla and I went to some sands called Gusteen, and found upon granite rocks *Arabis ciliata*.

July 31. *Sunday*. I was much pleased with the curate, Mr. R. Browne, who lives in the hotel.

Aug. 1. Searched Cushtrower Bay for *Atriplex pedunculata* but could not find any. Walked about Urrisbeg but found no new plants.

Aug. 2. I went to Craig Moira and got *Erica Mackaina*.

Aug. 3. Mr. Clowes and I walked to Maam.

Aug. 4. Mr. Clowes and I went over Maamhaen, and then turning to the right passed Lough Ina, going close under the Maam Turk range. The "Pins" have a very fine appearance from this route. Indeed no part of Connemara surpasses it in grandeur. We turned again to the right, and passed over the elevated pass of Maam Turk, returning home down Glan-na-Glask. This route is well worth a visit, from the fine mountain valleys of Maam Turk. The land is moderately dry, and appears to offer good pasture for sheep. This took us seven hours.

Aug. 5. Passed over the mountain behind the house and looked for *Adiantum Capillus-Veneris*, did not find it. Gathered *Eriophorum gracile* (?) Went along the top of the mountain as far as the old road to Cong, and returned by it. There is a small lake on the mountain containing plenty of *Dortmanna palustris*. Mr. Clowes left.

Aug. 6. Went as far as Drumsna, a wooded hill dividing the upper part of Lough Corrib, and forming the narrow part of that lake. Found *Hymenophyllum tunbridgense*, *Rubus idaeus*, *Hieracium umbellatum*, and *Scolopendrium vulgare*. The view from the top of the hill is very fine, taking in a large portion of Lough Corrib. The hill is limestone, the same as that at Castle-na-Careg, and also the hill between the rivers at Maam.

Aug. 7. Walked along the ridge between the rivers at Maam, and then examined the fine rocks upon the small mountain beyond. The ridge is limestone, the same as Drumsna, and the hill is the same. These three points are in one line, and continuing it, it passes under the northern end of Maam Turk, where I noticed limestone a few days since.

Aug. 8. After breakfast started for Tully; went over Maamhaen, and followed the same road as on the 4th, but at the point where we then turned up to Maam Turk, I followed the road which led me to Kylemore. The views of the "Pins," and of Maam Turk, and Mullshea were very fine, and varying at every few yards. Soon

after reaching the new road at Kylemore, I turned into the old road to Tully, which place I reached at 3.50, having left Maam at 10.20. After dinner I went as far as the old castle at Renvyle, and then examined the coast. I found the hairy variety of *Solanum Dulcamara* mentioned in "Flora Hibernica." There are several large plants of it upon the gravelly beach close to the house at Renvyle. Did not find *Arabis ciliata*. The castle quite a ruin.

Aug. 9. Walked back to Maam by the coast road. It is very fine, having the glorious bay and islands on one side, and the mountains upon the other. Colonel Thompson has built a nice house at the head of the little Killery, called Saltrach. Beyond his house the road passes over a fine pass called Maam-in-Urrough. This is good on account of the sea view at both sides. I then continued along the Killery, by J. Joyce's, to Maam.

Aug. 10. This day I found *Rhynchospora fusca*, *Utricularia intermedia*, *Eriocaulon*, and *Drosera anglica* near to the road to Oughterard.

Aug. 11. Went up the mountain behind the house. Found no plants, but had a grand view of Lough Mask and Lough Corrib.

Aug. 12. Left Connemara by way of Cong. The road to that place is very grand; in one place it passes over a hill commanding both lakes. Cong is a poor place, with the ruins of a fine old abbey. In the river below the mills I found *Callitriche autumnalis* in plenty. Reached the Rev. G. R. Gildea's in the afternoon.

Aug. 13. This day went by Balinrobe, a neat town, to Lough Mask, and examined several islands in it, but found no plants of interest. We crossed the lake to ——. The lake is very beautiful, far superior to Lough Corrib.

Aug. 15. Went to Headford. Mr. St. George's house is one of the nicest places in Ireland. He has built his new house on the top of an old castellated building so as to raise it a good many feet from the ground. The grounds and whole place are in the best order. We then visited Ross Abbey, one-and-a-half miles from Headford. The ruins are extensive and very interesting. . . .

Aug. 17. Arrived in Dublin . . . . sailed for Liverpool; met Cartmell of Christ's, and we travelled together by the "Hibernian" to Cheltenham.

Aug. 19. Reached Bristol (for British Association).

Aug. 20. Attended the general committee in the Chapter Room of the Cathedral.

Aug. 21. *Sunday.* Went to the Cathedral. Dined with Lingwood and Cartmell.

Aug. 22. The sections of the British Association commenced. Lingwood and I walked down the river as far as Sea Mills. We

found there *Lotus tenuis*, *Rottboellia incurvata*, *Allium carinatum*, and *Lepidium ruderale*. We then turned inland to Stoke Bishop. On our way we gathered *Centaurea nigrescens* and *Allium oleraceum*.

Aug. 24. Botanized on St. Vincent's rocks and gathered *Veronica hybrida*.

Aug. 26. To-day we went upon a botanical excursion. We started from Miller's garden and examined the rocks, finding *Helianthemum tomentosum*, *Veronica hybrida*, *Trinia glaberrima*, *Petroselinum sativum*, etc. We also noticed a *Ulex* which appears to be new. Mr. Forbes said that it exactly resembles *U. provincialis* of the south of France. We proceeded down the river to Sea Mills and then turned inland, and were most hospitably received by Mrs. Fisher at Hillside, not far from Blaize Castle. After seeing the fine wooded vale under the castle we returned home.

Aug. 27. Saw the first stone laid of the suspension bridge over the Avon at Clifton. Breakfasted with the trustees of it.

Aug. 29. Walked out by the river side and through part of Leigh woods. Took tea in the evening with Forbes.

Aug. 30. We met at Mr. Miller's garden for a botanical party. Crossing the river we ascended to the Roman camp, and then kept along the upper part of the hills for some distance, finding in the woods a form of *Euphrasia* apparently not noticed by English authors, perhaps *E. nemoralis*. Followed the river to Pill, near which we saw a very fine and old tree of *Tilia Parviflora*. Mr. Bright, a gentleman who has a fine place there, gave us refreshments. Saw several beautiful trees in his grounds, particularly a magnolia of large size. Below Pill we observed two fine yew trees in a churchyard and gathered *Senecio barbariaefolius*. (?) We soon reached Portishead, near which I gathered *Althaea officinalis*.

Aug. 31. Left Bristol and reached Bath.

Sept. 3. Went to Farleigh Down, and found *Solanum dulcamara var. hirsuta*. Called on my way back upon Mr. Fowler.

Sept. 7. Went to Bristol by the coach and then walked back in order to see the works for the Great Western Railway. Followed the line of it from Brislington to Saltford, and was much pleased with the beauty of the country by the side of the river. In a wood about a mile west of Keynsham, close to the river, and exactly on the line of the railroad, I found plenty of *Polygonum dumetorum*, and in a ditch crossed by the footpath from Corston to Newton Bridge I saw *Zannichellia*.

Sept. 10. Went to Coombe Down and found there (naturalized) *Centranthus ruber*.

Sept. 14. Went to Keynsham and gathered another stock of *Polygonum dumetorum*, then crossed the river and walked by the fields, passing the end of the Gloucestershire coal railroad, to

Bitton, intending to call upon Mr. Ellacombe, but he was not at home. I found near Kelston, by the roadside, plenty of *Senecio barbariaefolius.*

Sept. 15. Bath Horticultural Society Show for Dahlias. The day was fine, and more than 3000 people were in Sydney Gardens. Dined at the White Hart in the evening. We were a party of about fifty. The whole went off very well.

Sept. 20. Left Bath for Southampton. . . . . Walked out and found a *Spartina* on the mud of the river Itchen, which is apparently new. Walked up the river and along the Portswood Road as far as the first bridge, near which I noticed *Senecio barbariaefolius* and *Atropa Belladonna.*

Sept. 21. Went through the New Forest to Lymington and Christchurch. At the latter place went to Muddiford and crossed the river, finding on both sides *Polygonum Raii*, and on the west side *P. maritimum.* On the top of Hengistbury Hill I gathered a very hairy variety of *Calluna vulgaris* and *Ulex nanus.* Followed the coast for some distance and then turned inland nearly to Ifod Bridge, and returned to Christchurch by a ferry just below the town. After dinner went to see the church, which is a fine old building in good preservation, the interior most of it early Norman, with some parts in the Pointed style. The exterior is far less perfect. Near the church are small remains of a castle of but little interest, except a Norman building (perhaps a chapel) close to the river.

Sept. 22. To Muddiford, and then along the coast towards the east. After following it for some distance I turned inland and found plenty of *Pulicaria vulgaris* by the side of the road to Lyndhurst, about two miles from Christchurch, and by the side of a common I noticed *Scirpus Savii.*

Sept. 23. Went again to the station for *Polygonum maritimum.*

Sept. 24. Returned to Southampton and took up my quarters at Dr. Broomfield's; he showed me both species of *Spartina* growing in the Itchen, and *Convallaria multiflora* in Netley woods.

Sept. 27. Reached Henfield.

Sept. 28. Mr. Borrer and I went into Henfield Level and found *Polygonum minus.*

Oct. 4. Went with William Borrer to the forest, to a place called Miles' Race (a long avenue of Pinus Sylvestris), at the farther end of which I found *Pyrola media.*

Oct. 5. With Mr. Borrer to Shoreham, and nearly as far as Worthing. At Compting, by the north side of the road, we gathered *Cuscuta Europaea*, and in a field opposite to the large house at Offington, by Broadwater, we found a few plants of *Verbascum*

phlomoïdes. I then examined the shores of the Shoreham river, between the bridges, but did not find much.

Oct. 6. Wet day. Examined the flowers of *Cuscuta Europaea.*

Oct. 7, 8, 9. Continued wet weather.

Oct. 12. To London by the Horsham road; it is very pretty the whole way, and passes through Dorking and Kingston-upon-Thames.

Oct. 14. Went with Professor Don to Chelsea to hunt for the *Cyperus fuscus;* we did not find it on account of the rain and lateness of the season. It grows in a very shallow drain, coming up at right angles to the footpath from Walham Green to Pomona Terrace. Close to the bridge, on entering the field, we found *Polygonum Braunii.* Dined with Mr. Forster at Woodford.

Oct. 15. Reached Cambridge.

Oct. 17. Dined at Henslow's to meet Darwin, who was just returned from his voyage round the world.

Oct. 18. Walked to Baitsbite and gathered *Polygonum Braunii,* and *laxum, Lythrum Hyssopifolia,* and *Rumex maritimus.*

Oct. 20. Went with Power and Borrer to Dr. Jermyn's, and returned to Cambridge the next day.

Nov. 9. Finished my paper upon the East Indian *Polygona.*

Nov. 14. Went with Prickett to the Observatory and saw some of the spots on the sun.

Nov. 19. This day Mr. Simeon was buried in King's College Chapel. He died last Sunday the 13th inst.

Nov. 22. Dinner of the Philosophical Society at the "Eagle."

Nov. 29. A tremendous gale of wind, four trees were destroyed in the College walks; it went off suddenly, and was then quite calm afterwards.

Dec. 23. Went to R. M. Lingwood's, Highlands, near Uckfield, Sussex.

Dec. 24. This morning the snow lay heavy upon the ground, and it continued most part of the next day 25th and 26th. It also snowed upon the 29th, 30th, 31st, and Jan. 1st. We were quite snowed up, and so I could not see much of the country.

1837. *Jan.* 5. Lingwood and I went to Lewes and called upon Mr. J. Woods; we also went to see the place where the snow had fallen from the cliffs and destroyed five houses. Eight persons were killed by the fall.

Jan. 17. Left Highlands and arrived in London. Went to the Linnean in the evening.

Jan. 18. Saw Mr. James Sowerby on the subject of his "Supplement to English Botany." Geological Society's meeting.

Jan. 19. In the evening I attended by invitation a meeting of the Entomological Club, held at Mr. Bennet's, Cannon Street.

Jan. 20. Went to Deptford to see the collection belonging to the Entomological Club at Mr. Norman's. Returned to Cambridge.

Jan. 21. Degree day.

Jan. 24. Mr. Alexander Murray called upon me and inspected my insects.

Jan. 25. Was taken with the prevalent influenza, and did not leave my rooms until Sunday, 29th.

Feb. 22. A quarterly meeting of the Cambridge Reform Society. I made my first public speech upon the Irish Corporation Reform Bill.

Feb. 23. Mr. G. T. Rudd called and looked through my collection of insects.

Feb. 27. Breakfasted (with Stokes of Caius) with Smith of that College, in order to draw up a plan for a Natural History Society in the place of Professor Henslow's Friday evening parties, which he was obliged to give up at the beginning of this term.

March 11. We held a meeting to-day, at J. J. Smith's rooms, to complete the formation of our Society in the place of Henslow's Friday evening parties. (N.B.—Professor Henslow's Friday parties commenced on February 15th, 1828, and were continued regularly during full term until the end of the year 1836.)

Cycle of the Ray Club, 1837—Rev. W. H. Stokes, Mr. Haslehurst, Mr. J. A. Power, Rev. Jos. Power, Mr. Ball, Mr. Babington, Rev. W. P. Baily, Rev. W. L. P. Garnons, Rev. J. J. Smith, Mr. Borrer, Mr. Howson, Mr. Paget, Professor Henslow.

April 22. Went with Henslow to the Gogmagog Hills, and gathered *Anemone Pulsatilla* (just in flower) and a few other plants, such as *Viola hirta*, a small variety. Owing to the very cold season very few plants are in flower. There has been snow several days in each week, up to about the 18th inst.

April 28. Walked with Bullock to Haslingfield, by way of Grantchester, and returned by Harston, Hauxton, and Trumpington. It was a most beautiful day. I am inclined to think that the neighbourhood of Harston is nearly the prettiest part of the county.

April 29. Went with Ball to Grantchester, and gathered in a shrubbery near to the mill *Lamium purpureum* with white flowers. We also found *Petasites vulgaris* at Paradise, just come into flower.

May 2. Went with Baber and Stevens to Cherry Hinton, and gathered *Viola odorata, fl. alb., Viola hirta, and V. canina.*

May 4. Dined at Trinity, in Hall, with Prickett.

May 5. Went by the coach to A. Holmes', at St. Margaret's, Southelmham.

May 6. Holmes and I went to Halesworth (a small place), and walked to Bramfield to look for *Cyclamen*. We could see no trace of it, but gathered *Lamium incisum* at that place.

May 7. *Sunday.* Holmes showed me at St. Peter's plenty of the *Aconitum napellus*. It grows on the bank of two ditches, at right angles to each other, which form two sides of a square space in a field a short distance above the church, and upon the opposite side of the road.

May 9. We went by Flixton Church, and returned by Homersfield. In a pit near the latter place we noticed plenty of *Myosotis versicolor*, and near Flixton Hall *Lamium incisum*.

May 10. Whitear and I walked to Harleston by the foot road to Redenhall. We noticed by the side of the brook plenty of *Allium ursinum*. Returned by Mendham Long Lane, and saw plenty of *Crocus vernus* (of course out of flower) in a field on the right of the lane near to Harleston. We also observed a single specimen of *Fritillaria Meleagris* in a field called the Seven Acres on the left of the lane.

May 11. This day William Holmes Whitear was christened in St. Margaret's Church.

May 12. We went to Southwold, a small watering place on the Suffolk coast, and noticed by the way plenty of *Prunus insititia*, and near to Henham Hall a profusion of *Teesdalia nudicaulis*. At Southwold we gathered on the sands *Vicia lathyroïdes*, *Cochlearia anglica*, and *danica*, a variety of *Viola canina* with very strong roots, and *Cerastium semidecandrum* with a 4-partite structure. (*Note.*—They bring salt-rock from Cheshire to this place to be dissolved in sea-water, and then crystallized).

May 13. I went to spend a few days with Whitear at Harleston. We gathered in the wood at Gaudy Hall *Viola hirta fl. alb.*

May 15. We walked by Shotford Bridge to Shotford gravel pit. *Hippuris* in plenty near the bridge. In the pit *Myosotis versicolor*, *Carlina*, *Teesdalia nudicaulis*, *Lactuca virosa*, *Vicia angustifolia*, and *lathyroïdes*, *Thlaspi arvense*. Holmes brought from a field at St. Margaret's *Fritillaria*, both coloured and white.

May 16. I returned to Cambridge in company with the Revs. Kirby, Cautley, and T. Chevallier.

May 17. The Ray Club met at my rooms.

May 24. We made a small party to botanize near Linton. Found near Abington several specimens of *Ophrys aranifera*. *Orchis mascula* was still in flower, and *O. morio* in perfection. The "Bee" and "Man" orchises were only just showing above the ground.

O. latifolia nearly out. This evening there was a display of fireworks in King's walks; it being the birthday of the Princess Victoria, who politically comes of age this day.

May 27. Went with Ball to Haslingfield. Gathered *Riccia natans*, *Ranunculus parviflorus*, *Orchis morio* and *mascula*, *Medicago maculata* and *Zannichellia palustris*.

May 29. Went with Baber to Madingley. *Lamium Galeobdolon* was just come into flower. We noticed *Cerastium arvense* in flower, and *Arenaria tenuifolia* just come up, in the gravel pit near to the Observatory. *Leontodon palustre* was in flower in Madingley chalk pit.

May 31. Power, Ball, and I went by the coach to Fordham, for the purpose of botanizing at Mildenhall. We intended to take up our quarters with the Rev. Charles Howes, a Fellow of Clare Hall, and Power had written to him to inform him of our intention. He, however, was from home, and did not receive the note. It then turned out that there was only one bed to be had at the inn. We were, however, relieved from our difficulties by the kindness of the farmers. I slept at Mr. Seaber's, and Power at Mr. Dennis' house. Mr. Seaber is a man of extensive information, and an antiquary.

June 1. We started at a little after 6 a.m. and walked by Freckingham and Worlington to Mildenhall. In a field on the right hand between those places we found *Medicago minima*, and Power said that he had found *Silene otites* at that place. In some sand pits at Worlington we saw the above plants, and *Vicia lathyroïdes* and *Erigeron acre*. We breakfasted at Mildenhall, and then followed the Eriswell road until we reached a dry heath; we here gathered the *Medicago*, *Silene*, and *Vicia*, and also *Scleranthus perennis* and *Veronica verna*. Further on along the same road, and just beyond a clump of trees, a grassy lane turns off to the right, by following which, and keeping to the right of marshes, there is plenty of *Artemisia campestris* to be met with. After examining these places, we crossed the enclosed land towards the west, until we reached the Holywell Row road, at a spot where there is a fir wood on the west side and a pit upon the east. In that wood, but rather nearer to Mildenhall, we found a very great quantity of *Veronica verna* and *Artemisia campestris*. Then returning to the town, we went towards Barton Mills to look for *Veronica triphyllos*, but did not find it. Returning home by a road, from the great road to Newmarket direct to Worlington, we found on the field side of the hedge of the first enclosure on the left hand side a *Sedum*, supposed to be *S. glaucum*. We did not reach Fordham again until 7 p.m.

June 2. We returned to Cambridge by the coach.

June 6. Started at 8.30 this morning for Marston to visit Tylecote. I left the Oxford coach at Millbrook, about two-and-a-half miles from Marston. Met there Bullock, Mr. Lawson, of Moseley,

near Birmingham, Mr. Walford, from London, and Mr. Greene, of that neighbourhood.

June 7. We went to Ampthill, and saw some peculiarly fine old oaks in the park. Both *Quercus robur* and *Q. sessiliflora* grow in Ampthill Park, and are of a very great age. I noticed *Papaver Argemone* in cornfields near to Marston.

June 10. I reached Yoxall Lodge. I noticed near the Lodge *Genista anglica*, *Viola flavicornis*, *Orchis morio*, and *Myosotis versicolor*, all of them in plenty.

June 11. *Sunday.* Went to church at Walton-on-Trent, where my uncle Gisborne preached two sermons in order to collect some money for the new organ in that church.

June 13. I gathered *Larbrea uliginosa*, *Arenaria trinervis*, *Myosotis sylvatica*, *Cardamine amara.*

June 14. Went by the Forest Church, descended the hill through the wood, and returned home by Wood Mills. Found near to the latter place *Moenchia erecta.*

June 17. Left the Lodge and went to Thringstone to visit M. D. Babington.

June 18. *Sunday.* Went in the evening to Osgathorpe Church.

June 19. Went to Grace Dieu and gathered *Trifolium striatum.*

June 20. We went upon the Forest of Charnwood nearly to the new monastery. Gathered *Carex pilulifera* and a curious state of *Ranunculus hederaceus* floating upon deep water and very much lengthened out. Mr. A. Bloxam dined at Thringstone.

June 21. Went to Grace Dieu wood. . . . . Near the forest gathered *Alyssum calycinum.* In an old road below the parsonage at Thringstone we found *Habenaria viridis* in plenty. I also noticed it near Grace Dieu wood.

June 22. Went to the Leicester and Swannington Railway at the latter place, and ascended the inclined plane, and walked along the road nearly as far as Coalville. Returned by the fields and gathered *Sinapis arvensis var. retro. hirsuta* in a cornfield.

June 23. Walked by Pegg's Green Coalpit to Cloud-Wood, near Breedon. This is a large wood, and deserving of more attention than we were able to give it. We found, in a little brook which passes under the tramway at a very short distance from the Cloud-Wood lime works, a *Hygrotus* very much like *fluviatilis*, and *Haliplus elevatus.* In a field near we gathered in plenty *Bromus racemosus*, and on the banks of the tramway a *Glyceria* allied to *distans*, and perhaps only a variety of that plant.

June 24. Walked to the old reservoir and gathered *Carex pallescens.*

June 26. Walked over Charnwood Forest to Rothley Temple with Churchill. We found in a brook near to the Forest Church *Henicocerus viridioeneus* (?) and *Elmis parallelepipedus*.

June 27. Went almost to Cossington. Gathered *Ranunculus circinatus* and *Potamogeton zosterifolius* in the river Soar.

June 30. Left Rothley Temple for Cambridge. At Stamford I met Mr. M. Berkeley, who showed me *Eriophorum pubescens* and *polystachion* growing in a swampy place close to the second milestone on the Cambridge road.

July 5. Power and I went to Baitsbite and gathered *Potamogeton zosterifolius* and *Galium erectum*.

July 10. To London.

July 11. Walked through Battersea fields and found *Rumex pratensis*.

July 12. Walked to Primrose Hill and round the end of the Birmingham railroad. I gathered an *Atriplex*, probably *microsperma*.

July 14. Left town for Southampton, where I met Bullock and Lingwood and his wife.

July 15. Lingwood and I botanized close to the town, and down the river as far as Netley Abbey. We found *Bromus secalinus* and *Silene anglica* in corn. The *Spartina alterniflora* was far from being in flower. Sailed in the evening by the "Camilla" for Jersey.

July 16. Arrived at St. Heliers at about 10 a.m. We walked round the hill upon which Fort Regent is placed and gathered *Erodium moschatum*, *Cynosurus echinatus*, etc.

July 17. We, that is Mr. Lingwood and I, got into lodgings . . and in the evening walked along the coast of St. Aubin Bay, and found *Herniaria glabra* and *ciliata*, *Allium sphaerocephalum*, *Echium violaceum*, *Matthiola sinuata*, etc.

July 18. We walked by Longueville to Gronville to the sandy shore of Gronville Bay, and returned by St. Clements and Pontac. We gathered at Longueville and St. Clements the *Cyperus longusa*, and near to the latter place *Briza minor*.

July 20. We went in a car to St. Brelade Church, and then walked along the road towards Petit Port as far as a small cluster of houses. We then turned towards the north-west over a boggy meadow to the Quenvais. We there found, amongst others, *Exacum filiformis*, *Juncus capitatus*, *Centunculus minimus*, *Aira canescens*, *Statice plantaginea*, and *Trichonema Columnae*. We followed the coast of St. Ouen Bay as far as Petit Port, and gathered, on the tops of the hills on both sides of the latter place, *Helianthemum guttatum* in the greatest plenty. Crossing the Point (La Corbière) we followed the rocky cliffs as far as St. Brelade, then returned along the road, calling upon W. Christy, jun., at La Haule. He showed us *Lotus*

angustissimus (?) on the hill behind that house. (N.B.—*Helianthemum guttatum* is in plenty all along the hills near the coast, and *Statice plantaginea* at Petit Port and St. Brelade's Bay.) We crossed the sands home.

July 21. This day we walked along the bay as far as the first Martello Tower, then turned inland, and crossing the Canton du Mont-Cochon, we ascended the St. Laurence Valley for some distance. We returned by the sands. We gathered *Sinapis Cheiranthus* in plenty in the first little ravine to the west of the town, and noticed *Lotus angustissimus* in several places, also *Sibthorpia Europaea* in St. Laurence Valley.

July 22. Bullock walked with us to La Hongue Bie, from whence we had a splendid view over the whole island. We found close to the town, on the road to St. Saviours, *Mercurialis ambigua.*

July 23. *Sunday.* We walked in the evening to the Grave d'Azette, and I gathered *Bromus maximus* to send to Sowerby.

July 24. We went to La Haule, and were then joined by W. Christy, who accompanied us to the Quenvais, etc. We went up the lane by La Haule, and found *Lotus angustissimus* and *Asplenium lanceolatum.* On the Quenvais in a gravel pit, we found *Dianthus prolifer*, *Bupleurum odontites*, etc. We then crossed the Quenvais to the south end of St. Ouen Bay, there we gathered *Gnaphalium luteo-album* and *Polygonum Raii.* Following the sands near to the third Martello, we found *Euphorbia peplis*, and at St. Ouen's Pond *Scirpus tenuiflorus*, *Neottia aestivalis*, and *Orchis laxiflora* (?) Returning home by St. Peters after passing a mill, we ascended a hill, and found near to its summit a *Linaria*, much too far advanced to be decided, but probably *Pelisseriana.* On our return home we gathered *Sinapis Cheiranthus* and *Allium sphaerocephalum* to send to Sowerby.

July 25. I gathered *Mercurialis ambigua*, and sent it to Sowerby this morning together with *Scirpus tenuifolius*, *Neottia aestivalis*, *Sinapis Cheiranthus*, and *Allium sphaerocephalum.* We went to Elizabeth Castle in the evening, and gathered upon the hermitage *Daucus maritimus* and *Lavatera arborea.*

July 26. We walked to the marshes to the east of Fort Regent, but did not find much. Saw *Mercurialis ambigua* near Longueville.

July 27. We went in a car by Grouville to Mount Orgueil Castle. We walked along the sands of Grouville Bay from Grouville Castle to the Point. Gathered two or three grasses at Gorey, and plenty of *Mercurialis ambigua* in the court of the castle, which is now neglected. In the older part is a room which had not been known to exist until a few years since; it is now filled by stalactites. A *Lamium* closely resembling *intermedium* grows in the castle. From thence we walked along the shore of Anne Port and St. Catherine's Bay. The shores are high and rocky. We gathered *Brachypodium sylvaticum*, *Vicia angustifolia*, *Scilla autumnalis* (?), and

Erythraea litoralis. Dined at the little hamlet of St. Catherine, and went in the car by St. Martin's Church to Boulay Bay, and by Trinity Church home.

Aug. 1. A very wet day, but in the evening we got as far as the centre of the bay, and gathered the *Allium sphaerocephalum* and *Sinapis Cheiranthus.*

Aug. 2. Walked over the sands and up St. Peter's Valley, which is very pretty. We followed the valley as far as the mill, at which it forks, and then went up the right-hand fork. After that we crossed the country to St. Laurence Church. Part of this building is very old, Norman; the rest, of the Tudor age. It is a large church. We continued across the country to the Canton du Mort al' Abbe, and returned by the road.

Aug. 3. Went in a car to the Greve de Lecq by St. Mary's Church. The valley descending to this little bay is very pretty, being bounded by steep hills covered with Heath, Gorse, and Fern, with a few trees in the hollows. The bay itself is very small, but is enclosed by steep craggy rocks, which give it great beauty. But the most beautiful spot is a small cove, called Les Demies, round the eastern point of Greve de Lecq. It is quite shut in by lofty precipices, with several towering pointed rocks rising from its bottom to a great height. At Greve de Lecq we found *Spergula subulata* and a *Hieracium*, of which I have not been able to determine the name. From this place we followed the coast, which is lofty and very rocky, as far as St. John's Church, and then returned by the road home.

Aug. 4. We went to a rock in front of Fort Regent, just over the landing place, and gathered numerous specimens of *Scilla autumnalis*, and several *Atriplices*, and *Statice spathulata.*

Aug. 5. Went in a car up St. Peter's Valley to St. Ouen's Church. Lingwood and I then walked to St. Ouen's Pond and along the coast to Grosnez Cape. The rocks here are the grandest that I have noticed in the island. On the north side of the old castle there is a very deep, narrow crevice in the hill, the sides of which are several hundred feet in height, and quite perpendicular. We gathered the *Cowslip* on the slopes of the rocks near to the sea, and also *Asplenium marinum.* We then walked along the sea-slopes of the hills to Plemont Point and the Greve de Lecq, and returned home in the car.

Aug. 7. Called upon Mr. B. Saunders of the Caesarean Nursery, who showed us a list that he had formed of the native plants of the island, and allowed us to extract those names which did not occur in our list.

Aug. 8. We went in a car to Gorey, and then walked round Anne Port to La Crete guard-house; on the slope below which we gathered *Hypericum linariifolium* (?) in great plenty. We returned

across the country by La Hongue Bie and St. Saviour's Valley. In the valley we gathered *Stachys ambigua.*

Aug. 9. . . . Just before descending into the valley between the Quenvais and La Haule we gathered *Sinapis incana.*

Aug. 11. Left Jersey for Guernsey. St. Peter's Port is much better situated than St. Heliers, having far better streets and very steep flights of steps. We walked out in the evening and gathered a good many plants.

Aug. 12. Walked about the town. In the evening we crossed the Island to Long Port, and noticed there *Polygonum Raii, Convolvulus Soldanella, Matthiola incana,* etc. We followed the sandy coast for a short distance towards Saline Bay, and returned by La Forfaiture and Friquer. Close to Long Port gathered *Lepidium latifolium.*

Aug. 14. This day we followed the bay towards the north, then crossed the island to Vale Church, passing over the Braye du Valle (a marshy district), rounded the greater part of that end of the island, and returned by St. Sampson's Church. On a slope above Grand Havre at a short distance beyond Vale Church we found *Lagurus ovatus,* a little further on *Polygonum Raii* and *maritimum.* At about half-way to Mont Guet we found a leguminous plant, which appears to be *Arthrolobium ebracteatum.*

Aug. 15. Went through St. Andrews, and through various lanes to the mill in Bay d'Icart. The lower part of this valley is fine and mountainous in character. We then followed the coast, which is very high and grand, having numerous deep, rocky inlets, by Point d'Icart, and Petit Port to the Doyle Monument, and thence home.

Aug. 17. We walked by Les Landec, Friquer, etc., to Saline Bay. We crossed a number of low marshy meadows in the early part of our walk, and found several plants. From Saline Bay we followed the coast Grand Havre, on the western side of which we found plenty of *Lotus hispidus.* We then went to the station of *Arthrolobium ebracteatum,* i.e. a little hollow rather less than half-way from Vale Church towards Mont Guet. After this we returned home by the Braye du Valle and St. Sampson's Church.

Aug. 19. Walked round below the Fort, and gathered *Atriplex erecta* and *Orobanche barbata.*

Aug. 20. *Sunday.* Met P. le Neve Foster at the church.

Aug. 21. Went to Herm. We walked all round the island, and gathered 192 species of plants, including *Polygonum maritimum, Euphorbia peplis, Atriplex rosea,* etc. The island consists of little more than one ridge of hill and a large sandy flat at the north end.

Aug. 22. Gathered an *Atriplex,* probably undescribed, which I have named *stricta,* in a potato field below the foot-road from the beach to Fort George.

Aug. 23. We went across the island to Long Port, then followed the coast by Grand Cobo to Vazon Bay; in the sandy fields, near to the centre of which we found *Centaurea Isnardi*, and in some marshes, covered with tall reeds, we gathered *Pyrola rotundifolia* and *Carex punctata*. Returned home by St. Andrews.

Aug. 24. Went to the salt marshes by St. Sampsons, and gathered a *Zannichellia*, probably *pedunculata*.

Aug. 25. Walked through the cultivated part of the interior of the island, and gathered but few plants. We saw *Gnaphalium luteo-album* in several spots on the Braye du Valle.

Aug. 26. We went with Christy and a friend to St. Sampsons and Vale, and gathered the *Arthrolobium ebracteatum* in its station. We also found *Euphorbia peplis* in great plenty on the sands of Grand Havre, at some distance beyond Vale Church.

Aug. 30. Christy and I walked to Vazon Bay to gather *Centaurea Isnardi*. I dined with him.

Aug. 31. Sailed for England at 5 p.m., and reached Southampton at 5 a.m.

Sept. 1. I gathered *Spartina alterniflora*, and then proceeded to London.

Sept. 2. Called upon James Sowerby, and gathered for "English Botany" *Polygonum laxum* near to his house. Reached Cambridge in the evening.

Sept. 4. The specimens of *Artemisia campestris* brought by us from Mildenhall in June last are in flower in the Clare Hall garden.

Sept. 7. Left Cambridge at 7.30 a.m., reached Birmingham at 6.30 p.m.

Sept. 8. Proceeded to Liverpool. . . . . Took lodgings for the week of the meeting of the British Association.

Sept. 9. I have been appointed one of the secretaries of the Natural History Section, in conjunction with L. Jenyns and Mr. Swainson. I ought to have gone to a party at the Mayor's this evening, but was too much tired.

Sept. 14. The Committee of the Natural History Section went to Knowsley to see the Earl of Derby's collection of living animals; it is a most splendid collection.

Sept. 15. Last meeting of the Natural History Section.

Sept. 17. *Sunday.* Went with Bullock to hear Mr. MacNeile at St. Jude's Church.

Sept. 18. Professor Graham, Ball, and I went to the Cheshire side of the Mersey, and followed the river bank as far as New Brighton. We gathered the *Polygala*, described by Forbes in the Report of the Botanical Society of Edinburgh; also *Brassica monensis*

and *Equisetum variegatum* near to the latter place. Dr. Agardh, the younger, of Lund (with whom I had become acquainted at the meeting), was to have accompanied us, but was prevented by the wet.

Sept. 19. Left Liverpool by the railroad, and leaving it at Whitmore, proceeded by coach to Shrewsbury. Spent the afternoon with Leighton.

Sept. 20. Leighton and I went to Haughmond Abbey and studied the *Rubi*.

Sept. 21. Left Shrewsbury and proceeded to Coventry.

Sept. 22. Reached Cambridge.

Oct. 7. Went to Dr. Jermyn's, at his new house at Long Stanton, and remained there till Monday.

Oct. 14. Breakfasted with Sylvester to meet Mr. Rothschild, a son of the late banker in London, a Jew, who wishes to enter at the University.

Nov. 2. The first stone of the Fitzwilliam Museum was laid. We mustered in the Senate House, and went in form to the place. The Vice-Chancellor, Dr. Ainslie of Pembroke College, laid the stone, and made a short speech in English. Mr. Crick, the Public Orator, made a long Latin one. An immense number of persons attended.

Nov. 6. Went to London, and attended a meeting of the Entomological Society.

Nov. 7. Linnean Society meeting. Dined with the Linnean Club.

Nov. 17. Anniversary Dinner of the Philosophical Society.

Dec. 7. At a meeting of the "Society for protecting the independence of the Town," I obtained a Petition to be ordered from this Town in favour of Irish Corporation Reform.

Dec. 9. Elected a member of "Hendeka," a debating society at Christ's.

Dec. 19. Went to London; dined with Linnean Club, and attended the meeting. Left a paper on *Cuscuta* for the Society.

Dec. 20. Went to Bath.

1838. *Jan.* 1. Thomas Fortune and I walked to Twerton to see what progress had been made with the railroad. We found that the Turnpike road had been turned so as to run much nearer to the river, and that the railroad was to be carried close to it, so as not to cross it.

Jan. 9. The thermometer to-day at 11.30 a.m. is 24°, and small snow falling in beautiful star-shaped crystals.

Jan. 12. Thermometer last night down to 16°.

Jan. 17. Lingwood and I went to Cambridge.

Jan. 18. Thermometer 9° in the night.

Jan. 20. Degree day. Thomas Lingwood took his degree.

Jan. 21. *Sunday.* Thermometer in night at 8°.

Feb. 5. The frost has continued since the 2nd of January, and the Cam was frozen over when I returned. It was cleared of ice on the 9th of February.

Feb. 15. Dined with the Vice-Chancellor, Worsley of Downing College.

Feb. 17. (On Feb. 10) I introduced the question of the Ballot to the "Hendeka," and the debate was adjourned to the next Saturday, 17th, and then carried in the affirmative.

March 1. At an evening party at Professor Clark's.

March 7. The Ray Club met at my rooms; there was a full meeting, although all the members did not attend. About twenty-one persons, including Sedgwick and Miller.

March 16. Whig Dinner at the Bull Inn. Eighteen present, including Sedgwick, Smart Hughes, etc.

March 28. Smith of Caius and I went to see the Old Chapel near the Paper Mill Turnpike Gate. It has been used at some former time as a house, and floors have been put in, most of which have now given way. There are several interesting remains of Norman architecture still remaining in it.

March 29. Went to Mr. E. Forster's at Woodford.

March 31. Mr. Forster and I went to Loridge's Nursery at Hackney, and saw his fine houses, and also his collection of humming birds. He has 170 species, of which 60 are in no other collection.

April 2. Went to Mr. Evans, M.P., at Park House, Kensington Gore. Churchill Babington and I went to the Linnean Museum, and to a meeting of the Entomological Society in the evening.

April 5. Churchill and I went to Mr. Hope's, and I compared my collection of Darwin's *Dytiscidae* with his cabinet.

April 6. I went to Westwood's to get him to make drawings of my three new genera of *Dytiscidae* from America.

April 7. Left London, and arrived at Lingwood's in Sussex.

April 9. Went into Buxted Park, and gathered a few Lichens for Churchill Babington.

April 14. Went to Walrond Down, and found a small fish called *Petromyzon Planeri.*

April 20. Left Lingwood's.

April 21. Reached Mr. Borrer's before breakfast.

April 27. Saw Capt. Holman, the blind traveller, at the Linnean. Reached Cambridge.

April 28. Anniversary meeting of the Ray Club at J. J. Smith's rooms at Caius. I was appointed Secretary to the Club.

April 30. Supper with the Rev. W. Whewell after the Philosophical meeting.

May 2. Dined with the Cambridge Florists' Society at the "Hoop."

May 3. Went to the Gogmagog Hills with Henslow. We gathered *Anemone Pulsatilla* and *Viola hirta. var.*

May 11. Walked with Henslow's class to Coton, and took tea at his house in the evening. (*Note.*—Charles Darwin was on a short visit to him.)

May 19. Dined with the Rev. Dr. Graham, Master of Christ's, as President of the Philosophical Society.

May 24. Attended a meeting of the Town Reform Association at the "Hoop," and said a few words to them. The large room was quite full.

May 29. Botanical expedition to Gamlingay. (*Note.*—There have been eleven of these parties, including the present, and I have been at ten of them.)

June 1. Sailed (from Southampton) for Jersey, where we arrived at 12 noon.

June 2. Walked out in the neighbourhood of the town.

June 5. Went by La Haule to the Quenvais and St. Ouen's Pond, where I gathered *Orchis laxiflora*, then by the water-mill (gathering *Linaria Pelisseriana* on the hill side) to St. Peters, and home by the marsh, in which I found *Ranunculus ophioglossifolius.*

June 6. Went before breakfast to St. Peter's Marsh to gather *R. ophioglossifolius* for Sowerby. Sent it off that day together with *Orchis laxiflora*, *Linaria Pelisseriana*, *Polygala oxycantha*, and *Festuca sabulicola* for him to draw for "Eng. Bot. Suppl." Walked to St. Saviour's Valley.

June 7. To St. Brelade and found *Hypochaeris Balbisii*, and to the Quenvais. Met with very few specimens of *Juncus capitatus* and several of *Bupleurum odontites.*

June 11. Went to Gorey, St. Catherine's Bay, and along the coast by La Coupe, Havre de Rozel, and Boulay Bay. Near Rozel Harbour I found, growing upon *Spartium scoparium*, *Orobanche rapum*, which is perhaps *O. major* of Smith. Found on the hill above Mont Orgueil Castle *Trifolium subterraneum*, and there, and at La Coupe, *Trifolium ornithopodioïdes.* The valley descending to Boulay Bay is wooded, and very pretty. There is a small fishing harbour.

June 12. Wet. It clearing up in the afternoon, I walked out near the town, and found *Orobanche minor* in a field on the top of the hill near the first tower; also in the same field *O. caerulea* not quite come into flower.

June 13. Went by St. Aubins to the centre of St. Brelade's Bay, then followed the coast by Port la Fret, Portelet Bay, and Noirmont Point back to St. Aubins. *Hypericum linariifolium* in great plenty on all the dry hill-tops of this coast. Gathered a curious state of *Callitriche pedunculata* in a pond near Noirmont Point. On my return home I found, near St. Peter's Marsh, on the waste land by the road side, a *Ranunculus* which appears to be new, and which I have named *R. caespitosus.*

June 14. Wet. In the evening went as far as St. Peter's Marsh, and determined (from riper fruit) that my supposed new *Ranunculus* was only *R. hirsutus.* Found *R. parviflorus* on the bank near the windmill.

June 16. Went to the marshes near the Greve d'Azette, and round by Longueville home. Gathered several plants which I had not noticed before in the island.

June 19. Went up St. Peter's Valley to the station for *Linaria Pelisseriana*, and across the sands to St. Ouen's Bay, returning by the St. Peter's Barracks. Saw plenty of *Hypericum linariifolium* in several places, particularly St. Peter's Valley.

June 20. A very wet morning, and therefore remained at home and did much work.

June 21. Went up St. Saviour's Valley and gathered *Mespilus germanica* there.

June 22. To Guernsey. Took up my quarters again at Mr. Pulsford's, 18, Haviland Street.

June 23. Went by St. Sampsons and the Braye du Valle to Vale Church. Found, on a rocky hillock south of the fishpond, *Silene 5-vulnera* in plenty.

June 24. *Sunday.* Met Mr. W. Lukis at church, and went with him to his father's house, to whom he introduced me. I walked after dinner to the Fort and gathered *Orobanche barbata* at the Clarence Battery, growing upon ivy.

June 25. W. Lukis and I went to Vazon Bay and found plenty of *Potamogeton plantagineus* in the Grand Mare. We returned by Grand Cobo. Dined with Mr. Lukis and spent a very pleasant evening looking at his large collection of Celts, and other Druidical remains, and also his Natural History collections.

June 26. Walked to St. Martins and Jerbourg Point, returning round the coast by Termain Bay and the Artillery Barracks. On a nearly inaccessible cliff a little to the south of the latter, there is an *Allium*, probably *Ampeloprasum*, in great plenty.

June 27. Went to Vale and gathered *Arthrolobium ebracteatum*, *Bupleurum odontites*, etc. Examined a large Druidical altar on the common near to L'Ancresse Bay. Then went to the end of that part of the island and found *Callitriche pedunculata* near Paradis, and by the roadside at Bordeau Havre.

June 28. Coronation Day of Queen Victoria. Saw a review of the island militia in the morning, and a very long procession of Sunday school children, also a display of fireworks from Castle Cornett in the evening.

June 29. Went to Long Port through the fields, and then by Grand Roques, and Les Martins and Duvaux home. In the evening there was a partial illumination of the town, and a great crowd in the streets, which were scarcely passable on account of fireworks.

July 2. Went by St. Andrews and St. Peters to Rocquaine, then along the bay to Le Rec Barracks, near which I examined a Druidical altar, and afterwards another near Caqueran, the latter partly fallen down. Found several interesting plants in the salt marsh at Le Rec, viz., *Hordeum maritimum*, *Atriplex litoralis*, etc. Returned by the main road from Richmond Barracks and found at Mount Saint *Cynosurus echinatus*. At Rocquaine I found *Pyrethrum maritimum*.

July 3. Dined with Mr. Lukis.

July 4. Went with Mr. Lukis, two of his sons, and Mr. T. Harvey to the Druids' altar at L'Ancresse. I examined the western part of the Vale parish, and they excavated at the altar. Had our dinner on the spot and did not return until the evening.

July 5. Met E. Collings from Bath, and went to St. Sampsons with him.

July 6. Went round the southern point of the Grand Havre, and then joined Lukis and Harvey at the Druids' altar, and worked with them. Dined with Mr. Armstrong.

July 7. Went to Paradis and saw the altar there. We afterwards dined a large party within it.

July 11. Went with Mr. Vachell to see a cave at Porteval. Dined with him afterwards.

July 12. Went to Alderney. The island has a very fine appearance as you approach it. . . . . Walked out upon the Blaye before dinner, and afterwards examined Grosnez Point, Craby Bay, and part of Platte Saline Bay. The island is mostly high and without any enclosures, the land being held in small patches, only divided by an imaginary line, or in a few spots pointed out by stones. Although much exposed, it is very fertile. Nearly all the houses are collected into the town of St. Anne.

July 13. Went round Braye Bay, where I gathered *Diotis maritima*, *Brassica Cheiranthus*, and *Sinapis incana*; Corbelet's Bay, rounded

Quenard's Point, finding in several spots (particularly between the Hermit Rock and Corbelet's Bay) *Ononis reclinata*; Longy Bay, and round the sea slope of the hill of Essen Castle. On this latter place I noticed *Arthrolobium ebracteatum.*

July 14. Went to Roque Tracy (north-west point of island), round Giffoine, by Tres Veaux and the south coast, until I met the entrance point of my yesterday's course. Found *Arthrolobium* again in plenty, and also *Lotus angustissimus* on the slopes between Baye de l'Emauve and Vallée du Patte Cottée.

July 15. *Sunday.* After church walked to the south coast near l'Elat, and along it to the Chaise à l'Emauve, a curious natural seat with a roof in the face of the cliffs, accompanied by Mr. Radford, and the judge, John Gaudion, Esq.

July 16. Went to the higher parts of Maunez and Essen Castle, which consists of little more than the external walls of an old fortification. In the evening took a walk with the Judge, spent the evening at his house.

July 17. Examined the Blaye and part of the south coast, and in the evening went with the Rev. M. Lys, the clergyman of the island, to see a cave in the cliffs of Hannaine (at the west of the island), but could not get down to it on account of the tide being too high.

July 18. Re-examined the hill near Essen Castle and the eastern part of the island, gathering for Sowerby, *Lotus hispidus*, and *angustissimus*, *Arthrolobium ebracteatum*, *Ononis reclinata*, *Sinapis incana*, and *pratense* (?), the latter upon the Bute Barracks Hill near the town.

July 19. Returned to Guernsey from Alderney. (*Note.*—I gathered in Alderney 330 plants, exclusive of several as yet undetermined.)

July 21. Went with the Lukis' and Mr. Armstrong to Jethou, where I gathered about 115 plants, and on the little island of Crevichou twenty-three species.

July 23. Went along the cliffs under the foot, and gathered a specimen of the *Allium* that grows there, but have not been able to determine it satisfactorily. Also found *Calamagrostis Epigejos* on the same cliff. Dined with Mr. George Radford, and met Miss Dumbleton, a relative of Dr. Stanley, Bishop of Norwich.

July 26. *Sunday.* Examined the marshes to the north of the road behind Ivy Castle, and gathered what appeared to be the *Myriophyllum alterniflorum* of De Candolle.

July 27. Went to the Fort and descended to the *Allium* there which appears most like *Ampeloprasum*, but usually has bulbs in the head of flowers. It is in great quantity on the steep face of the cliff at a few hundred yards beyond the Artillery Barracks.

July 28. Walked about near to the town, and found *Lepidium draba* on the hedge bank opposite to the brick kiln near the Rohais road. Dined with Mr. Lukis, and met Dr. Franklyn of Alderney, and Mr. H. O. Carré, a botanist, and one of the jurats of the island.

July 30. Went with John and William Lukis to Sark. We had a rough passage, but arrived there in less than two hours. Walked to Little Sark in the evening. . . I slept at a little cottage in a field. . . . There are some curious old tombstones in the burying ground, but we had not time to ascertain their age.

July 31. Examined Little Sark. The Coupée is not more than six feet in width at two places, and full 200 feet high. The mines are advancing fast, and form a very curious feature in the island. Mr. Le Pelley, the proprietor of the island, and Mr. Cachemaille the clergyman (a Swiss), went with us to-day.

Aug. 1. This day I went along the coast, from the Coupée to Baker's Valley, which I ascended.

Aug. 2. I went along the hills near the coast commencing from the Coupée by Havre Gosselin and Brechon, but was stopped by rain, and returned home. In the afternoon although it rained hard, and was a thick fog, we went to the Point Chateau, where there has been an old fortification, and after dinner to the Port des Moulins, and had a long scramble amongst the rocks, which are very lofty and grand in this north-western part of the island. William Lukis shewed me the rock upon which his father discovered the tracks made by a limpet. See Loudon's "Mag. of Nat. Hist."

Aug. 3. I examined part of the north and north-east of the island, also the southern part of Little Sark. After dinner we went to some caves in the point of land extending towards Brecqhou Isle. We had some difficulty in descending, and getting up again, but were well repaid by the grandeur of the rocks and caves. The way down is on the north side of the promontory.

Aug. 4. Left the island, and returned to Guernsey. I gathered 252 plants in Sark.

Aug. 8. Left Guernsey and proceeded to London.

Aug. 10. Walked to Woodford, and dined with Mr. Forster, with whom were Mr. Borrer and his son Dawson.

Aug. 11. Called on Sowerby with Borrer. Reached Cambridge in the evening.

Aug. 16. Went to London, and left it at 10.30 p.m. by the "Ocean" steamer from Blackwall to Newcastle.

Aug. 17. We had a pleasant party on board, and fine weather until the evening, when it began to blow rather hard.

Aug. 18. We had a rough night, but it was finer in the morning, so that I saw the whole of the coast from Beachy Head to the mouth of the Tees. Reached Newcastle-on-Tyne at about 2.30 p.m. (British Association). Lodgings with Lingwood.

Aug. 20. First day of the meeting. After the meeting of the Section, Lingwood and I walked up the side of the Tyne, and gathered *Senecio viscosus.*

Aug. 22. I breakfasted with Mr. Alder the Conchologist.

Aug. 23. Breakfasted with Mr. Robertson the Botanist.

Aug. 28. Left Newcastle by coach with a large party of Naturalists, viz. Sir W. Jardine, Selby, Thompson of Belfast, Jenyns, Graham, Greville: they were all going to stop with Mr. Selby, at Twizel House. I came on to Berwick, to visit Dr. Johnston, with whom I found Philip Maclagan.

Aug. 29. We did not go far from the town during the remainder of the week, but employed ourselves in examining Dr. Johnston's herbarium.

Sept. 3. Mr. Selby, Dr. Greville, Mr. Thompson, and Mr. Jenyns came to spend the day. We made a party, by water, up the Tweed, as far as the Chain Bridge, and spent a very pleasant day.

Sept. 4. Dr. Johnston, P. Maclagan, and the whole family, went with me to Holy Island. Unfortunately the day turned out very wet, or we should have met the gentlemen from Twizel on the island. We, however, walked about in the rain, and gathered *Atriplex rosea* and *stricta*, and *Chenopodium botryoïdes* (?) We also saw *Erythraea litoralis.*

Sept. 5, 6, 7. Continued wet weather during all these days: on Thursday I had intended to have gone to Mr. Selby's, but was prevented by the wet. Mr. Thompson of Belfast arrived at Dr. Johnston's on that day, and left on Friday.

Sept. 10. Left Berwick . . . reached Edinburgh.

Sept. 11. Called upon Dr. Douglas Maclagan. Walked round Arthur's Seat, then to Leith, and along the coast by Newhaven for several miles. Gathered *Atriplex stricta* and *rosea*, also *Lamium intermedium.*

Sept. 12. Breakfasted with Maclagan, and met Dr. Balfour and Mr. Brand. Went with Dr. Graham to the Botanical Garden, and tasted the fruit of *Passiflora alata*, but found it very bad eating. Dined with Dr. Graham.

Sept. 13. Breakfasted with Dr. Balfour. . . . . Dined with Dr. Graham.

Sept. 14. Breakfasted with Mr. Campbell, and then walked to the ruined chapel under Arthur's Seat . . . to Glasgow.

Sept. 15. Called at Hooker's, he was not at home, but I found W. Hooker. Left Glasgow, and reached Sir William Jardine's Lodge at 11.30 p.m., having then a walk of half-a-mile to Jardine Hall.

Sept. 16. *Sunday.* Went to Applegarth Church. Mr. Selby of Twizel and Mr. Bigge of Newcastle at the house.

Sept. 17. We crossed the Annan, and walked over a large extent of young woods and some bog land. Saw in a quarry of new red sandstone some of the marks of the footsteps of extinct animals. At least three species were to be distinguished.

Sept. 18. In a moss near the hall we saw a greater quantity of the fruit of *Oxycoccus palustris* than I had ever noticed before. We then went over a number of wet fields full of the common *Polygona*, and in one plenty of *Galeopsis versicolor*. We also examined a very wet bog near the gate on the Glasgow road.

Sept. 19. Went to a beautiful glen near to Mr. Johnston's house at Rae Hills, and then crossed to Lockwood, the old castle of that family. Here are some very fine old oak trees.

Sept. 20. Walked over some hills beyond the Glasgow road.

Sept. 21. Did not go far from home.

Sept. 22. Worked with Mr. A. Goldie (the tutor) at the excavation of the dungeon in the old castle. We sunk about eight feet, and found nothing of interest. This is the place noticed by Sir Walter Scott in the "Minstrelsy" as Spedlin's Castle.

Sept. 23. *Sunday.* Applegarth Church. Started by the mail at 11.45 p.m. for the South.

Sept. 25. Reached Bath.

Oct. 3. Dined with Mr. Fowler.

Oct. 8. Went with Broome to pay him a visit of a few days at Rudloe Cottage.

Oct. 9. Broome and I walked up the valley by Slaughterford and Ford to Castlecombe, and returned by West Yatton and Biddlestone. Noticed *Atropa* at Slaughterford, and *Sambucus ebulus* between that place and Ford.

Oct. 10. We went to Chippenham, and joined Dr. Alexander; then went to Sandy Lane, and botanized in Shy Park and Bowood. Returned by Bowdon, Laycock, and Corsham.

Oct. 11. Went to Box Quarries, and gathered *Polypodium calcareum.*

Oct. 13. There was a little snow to-day.

Oct. 15. Walked with Mr. Flower to Wyck, and gathered a few *Rubi.* He shewed me the station of *Gagea lutea.*

Oct. 18. Went to the Dundas Aqueduct and Midford Castle in search after *Rubi*.

Oct. 22. Left Bath, and travelled from Maidenhead by the Great Western Railway.

Oct. 23. In London; saw Professor Don, etc., at the Adelaide Gallery; met Mr. W. W. Sanders, who promised me a free admission to that Institution. He introduced me to Mr. Bradley, their head man, and brother-in-law to the Rev. M. Berkeley. Reached Cambridge in the evening.

Nov. 17. Annual Dinner of the Philosophical Society. This evening I introduced the subject of "Transportation" and "Penitentaries" to the "Hendeka."

Nov. 18. Went with Bullock to Great Wilbraham, where he did the duty; afterwards we went to Mr. Teverson's house to tea, etc.

Dec. 5. Meeting of the Ray Club at my rooms.

Dec. 6. Lukis and I went to the Gogs to examine a *tumulus* in Lord Godolphin's plantation. It is a very large one. We returned by the Roman Road and Cherry Hinton, and amused ourselves with hunting for fossils in the heaps of flints.

Dec. 25. Went to Dr. Jermyn's at Long Stanton to spend the Christmas Day, and returned the next day.

1839. *Jan.* 5. Went to Henfield to Mr. Borrer's, by way of Dorking and Horsham.

Jan. 7. Determined a number of *Rubi* for my Supplement to the "Flora Bathoniensis" and "Primitiae Florae Sarnicae."

Jan. 18. Left Henfield. Mr. Borrer conveyed me as far as Lewes, where we called on Mr. Woods, and then Lingwood took me on to his house at Framfield. Ball was visiting him.

Jan. 19. Cambridge Degree Day. Ball would have taken his degree, if a Protestant.

Jan. 26. Went to the station of *Isnardia*, near Buxted.

Jan. 30. Went to Maresfield; and passing Woods' Nursery, turned down at the first gate, following the path as far as the brook, then crossing a foot-bridge, and turning to the right, at about fifty yards, we found *Stellaria umbrosa* on steep banks near the brook; came back through the woods and by Buxted.

Feb. 6. I returned to Cambridge.

Feb. 25. Entered Churchill Babington at St. John's College, under the Rev. John Hymers.

April 3. Put my "Primitiae Florae Sarnicae" in the hands of Messrs. Metcalfe and Palmer to print; it extends to ninety-three foolscap pages of manuscript.

April 13. Dined with Joseph Power with the other members of the Ray Club.

April 20. Re-elected President of the "Hendeka."

April 22. Meeting of the Philosophical Society. I had a party of the members and others at my rooms afterwards.

April 25. Went with Henslow to the hills, and got *Anemone Pulsatilla.*

April 30. Dr. James Wood, Master of St. John's, died.

May 7. He was buried in the College Chapel.

May 9. Mr. Blunt was elected Lady Margaret Professor of Divinity; many of the non-resident members of St. John's came up on this occasion.

May 18. Botanical party to Gamlingay, Mr. Rix of St. Neots joined us. . . . In the evening attended a supper given by the "Hendeka" Society to Ball, upon occasion of his leaving the University. It went off very well.

May 24. Went to London, and attended the Anniversary and Dinner of the Linnean Society, went to a soirée at the Bishop of Norwich (Stanley), the President.

June 8. Corrected the last proof of my "Primitiae Florae Sarnicae."

June 12. My "Primitiae Florae Sarnicae" came out.

June 13. Left Cambridge for the summer. . . . To Bath.

June 29. Went to Box Quarries to botanize. They had just commenced the railroad between Bathford and Box. By the road side near Shockerwick, I gathered a *Valeriana*, probably *sambucifolia.*

July 1. Went with Mr. T. B. Flower to Bristol, and then walked to Shirehampton, where we called upon a Mr. Smith, a schoolmaster, who pointed out to us the fields in which Drummond found the *Trifolium resupinatum.* They were then an open common, but now cultivated and enclosed, and lie between Penpole Point and the mouth of the river Avon. After a careful examination, I am now of opinion that the plant is lost. On our return to Bristol we gathered on St. Vincent's Rocks *Bromus diandrus* and *Trinia glaberrima*, the latter grows upon the rocks east of the Clifton footpath.

July 2. We went to Cheddar, and spent the day upon the cliffs there, gathering plenty of *Dianthus caesius.*

July 3. Walked back to Bath by way of Compton Martin, Chew Magna, Stanton Drew, where the circle of Druidical stones is still very perfect. (There is an inner and outer circle, and apparently also a cromlech). Pensford, Compton Dando, and Corston.

July 8. Left Bath, and met Mr. Borrer at Salisbury. . . . We arrived at Exeter at 8 a.m.

July 9. Went to Haldon Hill to look for *Elyna carycina*, but did not find it. Found *Eriophorum pubescens* at the bottom of a wet hollow below the road. In the woody ravine, on the way to Chudleigh, grows *Stellaria umbrosa*, *Potamogeton oblongus* in plenty, and also *Callitriche platycarpa*. Went in the evening to Okehampton (a poor little place), but the castle (in ruins) is very fine.

July 10. To Launceston, through a very fine country, having fine views of the moor. The church is interesting, built of granite, and each stone carved; an inscription (each letter upon a single stone), runs round near the base. The castle is very fine. Proceeded to Camelford, and found the town full of lawyers, so went to Trevenna near Tintagel.

July 11. Hunted up *Scutellaria hastifolia*, supposed to be found here by Mr. Borrer. Found *Callitriche pedunculata* and *platycarpa*; then to the sea-cliffs between Tintagel Church and the Castle, and found an *Allium* in great plenty, supposed to be *A. sibiricum*. The castle is interesting, many walls standing, although much has fallen down with the cliffs. Found *Pyrethrum maritimum* and *Daucus* near *Carota*, perhaps *gingidium*. Returned to Camelford, and gathered by the river *Senecio erraticus*.

July 12. The morning being fine we started (in a chaise) to ascend Rough Tor, a very lofty hill of granite near Camelford. . . . The hill is a fine one, and has a Logan on its top, which we did not find. Gathered both *Hymenophyllum tunbridgense* and *Wilsoni*, and Mr. Borrer found many good Lichens and Mosses.

July 13. To Mitchell and Cubert, to see the old Church of Peranzabuloe, which is very small and has one little window on the south side of the altar. The arched doorway is destroyed. Another church has been removed on account of the sands since this one was deserted. The sandhills are very extensive, but produced nothing of importance. On our onward road near Peran's Well, we found *Cicendia filiformis*, and on a hill above it, three varieties of *Euphrasia officinalis* which look very different, but vary; also *Gnaphalium dioicum*. The country most uninteresting, being everywhere covered with the barren rubbish from the mines. Through Redruth and Camborne to Hayle (a rising place), and Penzance; having fine views of the river and port near St. Ives, and the bay and Mount of St. Michael's near Penzance. Reached Sancreed by 9 p.m.

July 14. *Sunday.* At the parsonage of Sancreed, the living of the Rev. H. Comyn, who kindly received us during our stay in this part of the country. On the summit of a hill behind the church is, what appears to me to be a large cromlech, and below it, on the hillside, is a small double circle of Druidical stones.

July 15. Mr. Comyn drove us to Penzance, and we called upon the Rev. H. Penneck, who showed to us (in some orchards at Larriggan, between Penzance and Newlyn), *Oxalis stricta*. We do

not consider it native, although long naturalized. We then went to Mousehole, and on the way called upon Mr. Curnow (a gardener), who took us to one of the stations of *Iris tuberosa* (not now in flower), upon a hedge bank above his house. Naturalized (?) At Mousehole visited a cave in the sea-cliffs beautifully hung with ferns. By it I gathered *Lotus major β glaber*, *Polygala oxyptera*. Between this place and Penzance the road is carried close to the edge of the cliffs, and commands fine views of Mount's Bay, the Lizard, etc., and produces plenty of *Scrophularia Scorodonia* on its banks. We then went along the bay (in a carriage) through the poor little town of Marazion, and nearly as far as St. Breage, when we turned down towards the sea, to a mine named Trewavas, and gathered *Lotus hispidus* on the rocky slopes to the west near the Bishop's Rock, and *Illecebrum verticillatum* in a damp place a little further in that direction. Returned home at 10.30 p.m.

July 16. Went to the Logan stone, to which I ascended, and moved it. The rocks near, called Trereen Castle, are most grand. Mr. Borrer and I walked from the Logan by St. Levan, where we found *Lotus hispidus*, to Tol Peden Penwith, a fine promontory, with a hole like the Sarnian Creux by it. Then to the Land's End, and White Sand Bay, and home.

July 17. We went to Penzance, and thence to examine the sands near the Hayle river. First visited some sands near Lelant, and then spent some time upon the Phillack Sands, finding nothing of interest upon either. The latter forms a splendid range of sandhills.

July 18. Mr. Comyn drove me to Penzance, and I went and gathered *Cynodon Dactylon* on the sands of the bay, at a place where Ludgvan Church comes into a line with a farmhouse near some trees. It was not in flower. *Acer Pseudo-platanus* appears to be a native in Cornwall; it occurs everywhere, even by the side of mountain streams. Mr. H. Penneck dined with us.

July 19. Again very wet and stormy. In the afternoon Borrer, W. Comyn, and I walked to St. Just and Cape Cornwall, and found *Hypericum linariifolium* on a steep slope above the sea (between two prominent masses of rock), on the south side of the promontory before reaching the lower part which connects the conical headland with the rest. Cape Cornwall is a very fine Head, well deserving a visit.

July 20. Went to Zennor, a very small place upon the coast. On the way ascended Mulfra Hill, and saw an overthrown cromlech, consisting of three uprights and one very large slab, which had lain upon them, of eleven feet by nine and one thick. Between Zennor and St. Ives we ascended Rosehall Hill, to enjoy the view. At St. Ives (a small and poor place) Mr. Penneck met us, and took us to a small cave in the second cove towards Hayle, and pointed out a profusion of *Adiantum Capillus-Veneris*.

July 22. Left Sancreed, and reached Helston, from whence we went to Ruan Minor and Grade to botanize, but the wet prevented our doing or seeing much. Gathered *Erica vagans* on the road-side.

July 23. Foggy all day. Went to the Lizard. Drove to Kynance Cove, but the tide was in, so that we could not get upon Asparagus Island; walked along very fine cliffs to the Soap Rock, and gathered *Allium sibiricum*, *Genista pilosa*, and *tinctoria var.* Then walked to the Lizard Town and lighthouses. Drove to Grade, and walked along the cliffs to Ruan Minor by Cadgwith, near which is a hollow communicating with the sea by a cave called "Hugga Driggee." On the north-west side of this hollow we found *Orobanche rubra*, and on the left bank ascending towards Ruan Minor from the village a curious *Trifolium.*

July 24. By Truro, a fine town (gathering on the way in young woods above Perran Warfe *Erica ciliaris*), Grampound, and St. Austell, where is a fine church with the figures remaining in the niches of the tower (the church at Probus is a finer one), to Lostwithiel. Walked to Restormel Castle, which is seated upon a lofty conical hill, and has its outer wall quite perfect; it is circular, and the finest of its kind that I have seen.

July 25. Along a beautiful road through Liskeard and Callington to Tavistock, and on to Ivybridge by the Moor Road by Meavy. (From this place we ascended Sheep Tor under the guidance of the farmer of Longstone farm). It is a superb hill, with lofty walls of rock upon its summit, and a curious hollow under the stones called the Pixies' Hole (See Mrs. Bray's Work).

July 26. To Kingsbridge. Visited the Start Point in heavy rain.

July 27. In the morning to Salcombe and the Bolt Head. At Salcombe the Lemon tree grows in the open air, only covered in winter by a reed-mat; it is a beautiful place. Returned to Kingsbridge, and went by Slapton, where is a fine old tower of a monastery in a garden, in which the *Polycarpon tetraphyllum* grows; by the Slapton Sands finding *Corrigiola litoralis* by the bridge; and Blackpool Sands near Stoke Fleming, on which we found *Euphorbia peplis*, to Dartmouth. This is a curious town, with streets so narrow as scarcely to admit a carriage, and only doing so at each end of the town, and seated upon a very beautiful estuary with finely wooded banks, presenting the appearance of a succession of lakes. We arrived at Torquay in the evening.

July 28. I spent the day with Mrs. Griffiths, the famous Algologist, and her two daughters, and gathered *Bupleurum aristatum* and *Helianthemum polifolium* on the Beacon Hill and point of land near to it.

July 29. A very wet day; spent it with Mrs. Griffiths.

July 30. Left Torquay. A very wet day, the roads between Exeter and Sidmouth were much flooded, and we had to get off the coach at a ford. Parted from Mr. Borrer at Torquay.

July 31. Walked along the cliffs towards Otterton, and about the town, which is much smaller than I had supposed.

Aug. 1. Walked over the cliffs to the east of the town until I had passed the two first hills, and then along the beach, nearly as far as Branscombe; returned by an inland road, and found (as I had done yesterday) *Schistostega pennata* in every hole in the hedge-banks.

Aug. 2. Went to Sidbury, where there is a curious old church, and gathered by the way, particularly at Sidford (and also at a cottage to the left of the road, soon after leaving that which leads to Exeter), plenty of *Oxalis corniculata* in cottage gardens, where it is a weed.

Aug. 3. Left Sidmouth by coach to Taunton, over the Black Down Hills. At Taunton could not get a place by the morning coach, so walked about the town and neighbourhood until 2 p.m., when proceeded by way of Tiverton and South Molton to Barnstaple.

Aug. 4. *Sunday.* Before and after church walked by the side of the river Taw through a very beautiful country, and at 4 p.m. went to Ilfracombe; the first and last parts of the road are interesting, through wooded valleys; the middle part lofty downs. Went to the church in the evening.

Aug. 5. Walked by the coast road (which is all up and down steep hills) by Berry Harbour to Coombe Martin, near which place I noticed the red-stalked form of *Athyrium Filix-femina* and the scaly one of *A. Filix-mas*, also *Atropa Belladonna* and *Orobanche barbata*. Returned by the inland road, which is much longer, but has only one long ascent and a long descent. *Trifolium medium* is very common by the road-side. Left by the steam vessel at 5 p.m., and arrived at the Mumbles Lighthouse at about 9 p.m. As the tide was low, we had to land at the Mumbles, and walk to Swansea, a distance of five miles.

Aug. 6. Called on Mr. Flower, who was in lodgings, and he went with me to Pennard Castle, where we saw plenty of the *Draba aïzoides* on the walls and rocks near the castle (he said that he had seen it at the Worm's Head) and *Sinapis Cheiranthus* on the steep side of the sand hills, between the castle and the sea, towards the river. We returned by the coast, and examined Oystermouth Castle, a fine ruin, on which grows *Orobanche barbata*. Upon rough waste fields near the town W. Flower directed me to *Reseda fruticulosa*.

Aug. 7. Mr. C. T. Cayley and I walked up the river, and went over the copper works of Messrs. Vivian, the largest in existence.

Aug. 8. Left Swansea, passing by way of Neath, and up the beautiful vale of that name, to Merthyr Tydvil. We walked up the valley above the town, when Mr. Cayley attempted to fish, and I botanized, not finding much of interest. In the evening we went down the valley, and saw part of Mr. Crawshaw's iron works.

Aug. 9. Walked down the valley for about five miles, and found it to be very beautiful. Started at 3.15 for Brecon in an omnibus, which took four hours in going nineteen miles. Unfortunately it rained hard as we were passing over the mountains, so that I only obtained a faint idea of the country. The Brecon Beacons appear very fine hills.

Aug. 10. Went on to Hereford by way of Hay, and arrived at Lingwood's, Sufton Court, Mordiford, before dinner-time.

Aug. 12. Walked about the neighbourhood, and noticed by the side of the Wye *Arctium Lappa* for the first time.

Aug. 13. We went to Worcester by way of Ledbury and Malvern. Mrs. Lingwood, Tom Lingwood, and Miss Helen Lingwood accompanied us. On the way ascended the Herefordshire Beacon, upon which there is a large encampment; from the summit a most extended view. At Worcester we saw the porcelain works of Barr & Co., the new County Courts, to which lodgings for the judges and magistrates are attached, the Natural History Society, the Town Hall, and the Cathedral.

Aug. 14. Walked along the road towards Lugwardine, and after crossing the brook turned to the right, and visited a curious mass of Trap rock. The adjacent strata present curious appearances, resulting from the roasting heat of the Trap.

Aug. 16, 17. Wet weather. On the latter day we visited the extensive and highly interesting collections in antiquities, etc., of the Rev. C. Bird, the Rector of Mordiford.

Aug. 19. Walked to the top of a hill denominated Backbury, on which there are some fine rocks, and an extensive view. In the afternoon I went to Fownhope.

Aug. 20. Went to Hereford, and saw the Cathedral, some parts of which are fine, from the Norman arches, etc., but the most part is uninteresting.

Aug. 21. Walked over the hill behind the house, and along the valley as far as a quarry called Chackley (?), where we got numerous fossils out of the carboniferous limestone.

Aug. 23. Walked along the banks of the Wye, above Mordiford Bridge, until it again met the Hereford road, and found plenty of *Mya margaritifera* and *solida*.

Aug. 24. Left Sufton Court, and reached Birmingham to attend the meeting of the British Association. Lingwood and I took lodgings at Mrs. Harrison's, 10, Anne Street.

Aug. 26. Section commenced its sittings. But few in number, and papers scarce.

Aug. 29. Yesterday and to-day we formed a private dinner party at the "Red Lion" Inn, with Dr. Macartney in the chair. (*Note.*—It is a clean, quiet inn.)

Aug. 30. An expedition to Dudley took place to-day by barge. It rained very hard; we went by water into the caves at Dudley, which were finely illuminated, and most beautiful. Saw the Castle, and a fine collection of fossils in the infant Museum. Spent a very pleasant day.

Aug. 31. The meeting terminated.

Sept. 2. Left Birmingham and arrived at Croxall, the living of James Gisborne.

Sept. 4. A fine Aurora Borealis this evening.

Sept. 11. Reached Yoxall Lodge, and found uncle very well, and my aunt moderately so.

Sept. 20. Went with Mr. Gisborne to a meeting of the Bible Society at Burton-upon-Trent, and went on in the evening to Thringstone, to spend a few days with M. D. Babington.

Sept. 27. Went by coach to Coventry, and then by railroad to London.

Sept. 28. Arrived in Cambridge.

Sept. 30. Dr. Hancock's steam carriage came from London to Cambridge, and exhibited on the Trumpington Road the next day. Henslow came up in order to pack up his goods, and cease from residing in Cambridge.

Oct. 11. Churchill Babington came up to St. John's as a Freshman Pensioner. I got rooms for him in my own staircase, Letter A, New Court, and No. 9.

Oct. 16. Mr. and Mrs. Evans came to Cambridge to put William Evans into rooms as a Fellow-Commoner of Trinity College.

Oct. 21. Dined with them at the "Hoop."

Oct. 30. First meeting of the Ray for the year.

Nov. 6. Anniversary meeting of the Philosophical Society, at which I was again elected a Member of the Council of the Society.

Dec. 7. W. S. Hore of Plymouth, who had come up to take his M.A. Degree, breakfasted with me.

Dec. 8. I did the same at his rooms in Queens' College.

Dec. 12. Supper at Cartmell's, to meet Lingwood and Hunt, who both left Cambridge the next day. I dined with Ward of Magdalene.

Dec. 18. Went to Adolphus Holmes' at St. Margarets.

1840. *Jan.* 1. Left St. Margarets and went to Brockdish, to the west of Harleston, to visit Whitear.

Jan. 2. We went to Stratton on the Norwich road, to spend the day with J. L. Brown, the curate of that place, and he returned with us in the evening.

Jan. 3. We and Brown walked to Wingfield Castle, an old seat of the De La Pole family. The entrance gateway, and the side in which it is placed is fine, but ruinous within. We also saw Wingfield Church, which is very well worth a visit, from its beautiful, perfect, and correct architecture; and also several fine monuments.

Jan. 5. *Sunday.* Walked to evening service at Starston, and heard an excellent sermon from Mr. Spencer.

Jan. 6. Went with Whitear (who is a Guardian), to the meeting of the Board at the Union House at Pulham, and walked back by Harleston. Went to tea at the Squire's house, Mr. Brettingham.

Jan. 7. Walked to Broome, and called unsuccessfully upon Mr. Kirby (Fellow of Clare Hall), and Eye. In Broome Church are some monuments of the Cornwallis family, beautifully restored. At Eye there are some slight remains of a castle, and a very fine church, now undergoing repairs.

Jan. 10. Penny Postage plan came into operation.

Jan. 13. Dined at Mr. Brettingham's house.

Jan. 14. Went to Brockdish Hall to see some Elizabethan remains, but consider the house more modern, and uninteresting; also to Syleham Church, which is worth a visit.

Jan. 16. Returned to Cambridge.

Jan. 18. Degree Day.

Feb. 3. Went to London and attended a meeting of Entomological Society.

Feb. 4. Linnean Society.

Feb. 5. Geological meeting.

Feb. 6. Went to Mr. Forster's at Woodford, and the next day returned to Cambridge.

Feb. 18. Henslow spent the day in Cambridge, and I dined in his company, with Sedgwick in Hall, at Trinity.

Feb. 19. Ray Club met at my rooms. The Rev. Edward Hill, of Ch. Ch., Oxon., came to the Ray; he had not been in Cambridge since the British Association meeting here. During the autumn I was elected a member of the "Brotherhood of the Friends of Truth," a society instituted for the purpose of combining all those who are in pursuit after truth, in however many different ways, into one body. (See letter of Edward Forbes, dated Dec. 20, 1839.)

Feb. 20. Dined with Stokes of Caius to meet Mr. Hill.

Feb. 22. Mr. Hill, Dr. Paget, and Ansted breakfasted with me.

March 6. Whig dinner at the Bull Inn, twenty-four attended.

March 7. J. Ball came to Cambridge, having got a degree at Dublin. At the "Hendeka" meeting that evening, Ball in the chair, the society presented to me a copy of "Hallam's Constitutional History," as a "mark of their satisfaction for the services that I had rendered to the society at the time when it was in a state of depression, and also for my conduct as President for three terms."

March 9. Dined with Cartmell at Christ's.

March 10. Dined with Joseph Power at Trinity Hall.

March 11. Had a dinner party consisting of J. Ball, W. C. Lukis, J. Lukis, Stokes, J. Francis, J. E. Fitzgerald, Ansted, Joseph Power, and Churchill Babington.

April 7. Left Cambridge for the vacation. Dined with the Linnean Club, and attended the meeting of the society, where I met W. S. Hore of Plymouth.

April 8. To Bath by railway to Reading, and coach.

April 15. Went to Hampton Wood, and found the *Primrose*, *Wood Anemone*, *Yew*, etc., in flower.

April 18. Went to the new garden of the Horticultural and Botanical Society in the Victoria Park, and saw there a fine plant of *Ulex strictus* in full flower. Mr. Baxter, the son of the Oxford Curator, has the management of the garden.

April 21. Exhibition of the Bath Royal Horticultural and Botanical Society in their new garden. I was there during the whole day. More than 2000 visitors were at the garden during the day.

April 23. Walked to Wyck, and looked for *Gagea lutea* at the locality under Lansdown, but failed in finding it.

April 28. Went with James Gisborne, Mr. Charles Holworthy, and Mr. Edward Holworthy to Middle Hill, to Mr. Henry Holworthy's, and then we went together to the Box Tunnel, and went down the shaft No. 7, walked back, and dined with Mr. Henry Holworthy, and then returned to Bath in the evening.

April 30. Left Bath by the "Monarch" night coach at 8.15 p.m. and reached London at 8 a.m., by railroad from Reading. The weather had been particularly hot for twelve or fourteen days, often in the shade rising to 70° or 72°.

May 1. Reached Cambridge.

May 2. Third Anniversary of the Ray Club. We dined with Garnons at Sidney College.

May 6. Henslow commenced his lectures. Postage stamps came into use. Great feast at St. John's.

May 7. First meeting of the Cambridge Antiquarian Society at the Master of St. John's. Dined with Professor Willis.

May 15. Dined with Henslow at Downing, and met Professor Starkie, the candidate for the Town. We went with Starkie to a meeting in King Street, and I made a speech in his favour.

May 22. The botanical party into the Fens took place. We had a fine day; the whole passed off very pleasantly.

May 28. The botanical party to Gamlingay. A fine day. Very few insects to be found.

May 30. The "Hendeka" Society held its last meeting, having dissolved itself at its rising. The following is a list of the members at this time:

*Joseph Clark, Christ's College; *John Ball, Christ's College; *Edmund Thompson, Christ's College; *James Francis, Christ's College; *Thomas J. Lingwood, Christ's College; *James Back, Christ's College; *Stephen Catley Baker, St. John's College; †Frederick Wistinghausen, Christ's College; ‡John W. Reeves, Christ's College; ‡John Dunnington Fletcher, Christ's College; James Edward Fitzgerald, Christ's College; ‡Charles C. Babington, St. John's College; ‡Henry Drury, Caius College; H. J. Marshall, St. John's College; R. N. Wood, Jesus College; ‡Francis Baines, Christ's College; John Pemberton Bartlett, Christ's College; R. J. Snape, Christ's College; John Cartmell, Pembroke College; Edwin H. Vaughan, Christ's College.

June 2. Went by coach to Linton, with H. C. Rothery, B.A., of St. John's, and then walked to the usual hills and open places to which Henslow's class have been accustomed to go, but found that the two open places on which the most interesting plants were found, had been ploughed up. It came on to rain hard, and we walked by in it, going along the Roman Road, and then turning down to the station for *Ophrys aranifera*, but found that some one had been before us and dug up all the plants.

June 3. Dined in Hall at Caius, to meet Mr. Brooke, who has recently presented a fine collection of shells to the Woodwardian Museum.

June 5. Walked with Rothery and Churchill Babington to Fulbourn and the Little Devil's Ditch, finding the chalk plants in perfection, such as *Hippocrepis comosa*, *Hedysarum onobrychis*, *Astragalus hypoglottis*, *Orchis ustulata*, etc. *Anemone Pulsatilla* was almost over.

June 8. Left Cambridge for a short time, and reached St. Margarets, Southelmham; at Holmes', in the evening.

* Original Members and full Honorary Members. † Full Honorary Member. ‡ Honorary Members.
James Francis undertakes to keep the Minute-Book.

June 9. Walked with Holmes to St. Peters, gathering *Tragopogon pratensis* (the true plant) and *Aconitum Napellus*; then to Flixton, finding near the river on a wooded bank *Ornithogalum umbellatum*, and returned by Homersfield.

June 10. Went to Southwold with Mr. and Mrs. Holmes and the two little boys. In the evening found *Echinospermum Lappula* in flower on the further part of the inner slope of the beach towards the pier.

June 11. Walked by Walberswick along the coast, and through the marshes to Dunwich, finding *Macroplea zosterae* in one of the ditches, and gathering *Glyceria Borreri*, *Blysmus compressus*. The church at Dunwich is about one hundred yards from the edge of the cliff, and quite in ruins; behind it are the remains of a monastery, but of very little interest. Returned by the new church, near to which there is an interesting ruin, and by Little and Great Dingle, and so across the marshes to Walberswick Church, which is a very fine ruin, and so home. We gathered near Dunwich on our return *Trifolium glomeratum*.

June 12. Walked along the coast towards the north by Easton Bavent, a parish which is nearly washed away, Easton Broad (a large sheet of water), to some marshes beyond Covehithe, where we found *Carex Pseudo-cyperus* and *paniculata*. Then to Covehithe Church, a fine ruin, and home by the inland road. In a swampy place by the way back we saw some *Natterjacks*, *Bufo rubeta*.

June 13. Examined the banks close to the sea, near to the northern end of the town, and found *Medicago denticulata* and *Trifolium glomeratum*. Afterwards we walked over the town marshes, and in the evening returned to St. Margarets.

June 15. Walked to the river-side above Homersfield, and found *Potamogeton praelongus*, *Stratiotes aloïdes*, *Sagittaria sagittifolia*, etc. Also saw, not in flower, fine plants of *Sium latifolium*.

June 16. Drove to Bungay, and called upon Mr. Stock, then walked to the Bath Hills, but found them so much covered with trees and bushes that we could get nothing. Noticed *Iris foetidissima* and *Helleborus foetidus* in the wood. Crossed the river to Bungay Common, but found no rare plants. We hunted for *Tillaea* in the places in which it had been found, but could not obtain any.

June 17. Mr. Borrer arrived, and we walked to St. Peters, and on our return found in a field at St. Margarets *Lolium temulentum*. Mr. Borrer brought with him from Eye, specimens of *Allium ambiguum*, gathered this day by the side of the hollow path ascending to the castle of that place. They are nearly out of flower.

June 18. Holmes, Borrer, and I went to Southwold, to show Borrer the *Echinospermum Lappula*. On the way, just at the entrance of Halesworth, we found plenty of *Anthriscus Cerefolium*,

and at the bottom of the last hill before that *Geranium pyrenaïcum*. At Southwold found *Poa distans* on the sands, *Trifolium ornithopodioïdes*, a mealy variety of *Frankenia levis*, near Walberswick, and several other things. Mr. Borrer returned to London by the Yarmouth mail.

June 22. Went to Mendham Bridge, where we borrowed a boat, and went some way up the river Waveney, having some difficulty to push through the weeds, consisting chiefly of *Oenanthe Phellandrium*. We gathered a quantity of *Potamogeton praelongus* to send to Sowerby for "Eng. Bot. Supplement."

June 23. Walked to the marshes near Homersfield, and got specimens of *Ranunculus circinatus* for Sowerby, to send with *Potamogeton praelongus*. Dined at Mrs. Holmes', at Gaudy Hall, and met Sir G. Crewe.

June 29. Went in Holmes' carriage to Beccles, and then walked to Yarmouth. By the way we noticed a fine Norman tower to the Church of Gillingham; a very remarkable Saxon window in the tower of Haddiscoe Church, and had much pleasure in inspecting Burgh Castle. In Haddiscoe churchyard gathered a *Ballota*, probably *ruderalis*. We saw in the marshes near to St. Olave's bridge, *Althaea officinalis*, and *Apium graveolens*. On the heath near Caldecott Hall we gathered *Datura Stramonium*, and saw numerous *Natterjacks*, and also *Verbascum pulverulentum*.

June 30. Messrs. Paget called, but could not give us much botanical information; they directed us to Mr. Lowne, a pastrycook in Broad Row, who directed us to several plants. We first crossed the suspension bridge, and gathered *Lotus tenuis* in the marshes, and then returned and went as far as Caister, and found there *Callitriche platycarpa*, and on the sandhills *Corynephorus canescens*, *Elymus arenarius* in flower. We then went to the South Denes, and at about fifty yards from the west side of the Barracks, found plenty of *Trifolium suffocatum*. Walked to Lowestoft, Crown Inn.

July 1. Found *Urtica pillulifera* in plenty under walls below the hill on which the town stands. Examined the outlet of the new harbour of Lake Lothing, and walked back to Beccles by way of Kirkley, Carlton Colville, Mutford, Barnaby, and North Cove. At Beccles, the carriage met us, and took us back to St. Margarets.

July 3. Returned to Cambridge.

July 8. Went to Cherry Hinton, and found the *Bunium Bulbocastanum* in a corn field on the south side of the road to the hill, going by the great chalk pit.

July 13. Whitear and Henslow came into rooms near to me in College, to attend the meeting of the Agricultural Society.

July 14. Went to the Hills Road Turnpike to see a ploughing

match. The whole road was thronged with pedestrians, and persons in carriages, or on horseback. Dinner in the Hall of Trinity, which went off very well.

July 15. Went to the Cattle and Implement Show at 6.30 a.m. and returned to breakfast. In the afternoon went again. Much pleased with many of the cattle, and also with the implements, some of which showed great ingenuity. Dinner in the great temporary building in the court of Downing College; at which 2600 were present.

July 16. Grand Horticultural Show in the building of Downing College.

July 29. Mr. Borrer, who arrived here yesterday, went with me to Chesterton to gather the *Ulva furfuracea*, and to Cherry Hinton to get the *Bunium Bulbocastanum*.

July 30. Left Cambridge by the "Star," and took up Mr. Borrer at Royston. Went on the same evening by the Hereford Mail, by the Western Railway, to Steventon, and then by way of Oxford, Cheltenham, and Ledbury, reaching Lingwood's at Sufton Court to breakfast on July 31.

Aug. 6. Started on a trip down the river Wye. We went in Lingwood's carriage to Ross, and then took boat for Monmouth, visiting Goodrich Court and Castle by the way. The collection of armour at the former is of great interest. The castle is a fine ruin, and both it and the court are finely situated. Lower down the river, Simmon's Yat is a place of great grandeur.

Aug. 7. After sleeping at Monmouth, we went on by water to Chepstow, stopping at Tintern by the way.

Aug. 8. Returned to Sufton Court by way of Raglan, Monmouth, and Ross. The road to Raglan commands some fine views; the castle is a grand and most interesting object.

Aug. 10. Went to Abergavenny by the coach.

Aug. 11. Ascended the Blorenge, and endeavoured to find *Teucrium regium*, but did not succeed. Afterwards went to Llanthony Abbey, where the little inn kept by a person of the name of Webb, is formed out of parts of the ruin in such a manner as not to disfigure it at all. The ruins are in a very bad state, and not likely to stand much longer.

Aug. 12. Walked from Llanthony, up the valley and over the Pass of the Black Mountains, to Hay, and then returned to Sufton by car.

Aug. 16. W. Baily, of Clare Hall, whom we had fallen in with at Ross, upon our trip down the Wye, and who had accompanied us upon that occasion as far as Simmon's Yat, came to Sufton.

Aug. 17. Baily, Lingwood, and I examined the strata of the Ludlow and Wenlock rocks on the north-west parts of the Woolhope Valley. We met with numerous broken *Trilobites* in the Wenlock shale. Heavy storms of rain all the day.

Aug. 18. We examined to-day that portion of the Woolhope Valley that forms the southern side of the bounding range, and the central portion, particularly the Caradoc limestone and sand.

Aug. 19. I left Sufton Court this morning, and went by way of Birmingham to Liverpool, and then took the steam packet to Dublin, arriving at that place at 6 a.m.

Aug. 20. Called upon Mr. Mackay at the Botanic Garden, then went to Kingstown, and left Dublin by the mail in the evening.

Aug. 21. Arrived at Westport at 5 p.m.

Aug. 22. I examined the neighbourhood of the harbour for some hours, and then went to Newport, to the Rev. G. Gildea, who is rector of that place.

Aug. 23. *Sunday.* There was a good congregation. I understand that there are about 500 Protestants in the parish.

Aug. 24. Went to Burrishool Abbey, of which the greater part of the church remains pretty perfect. It is of a very late style of architecture, the styles being much mixed. Then crossed the lower of the Burrishool Lakes, by going over Nixon's Island, in a flax field in which I found a small quantity of *Cuscuta epilinum*; then followed the road upon the western side as far as the island that divides the lakes; having found in a hollow before getting to the "Leap" plenty of *Erica mediterranea* in a swampy place, between the road and the lake. The *Erica* also occurs upon the south side of the island that divides the lakes. Here I saw *Callitriche pedunculata β sessilis*, and also plenty of *C. platycarpa*. After again passing to the eastern side of the water, I went to the upper end of the upper lake, and then ascended a mountain called Buckough, and descending upon its other side, returned to Newport. There is a very fine view from the top of the mountain, including the whole of Clew Bay, the Morisk Mountains, Lough Beltra, and most of Erris. The lakes of Burrishool communicate by two streams with a great fall; the lower one is affected by the tide.

Aug. 25. We went in a boat for some distance amongst the islands of the bay.

Aug. 26. Walked to an old castle on the coast beyond Burrishool, called Carrigachouley, and returned by an old and very bad road to the Burrishool bridge. Found a little more of the *Cuscuta epilinum*. Then went along the new road to Castlebar, as far as the place where it joins the old one, by which I returned. In the lake between these roads I determined that the long-leaved *Potamogeton* that is so common in this country, but so rarely flowers, is *P. heterophyllus* [since determined to be *P. lanceolatus*, 1864].

Aug. 28. Went by car to the Sound of Achill, where I stopped for the night. The drive from Newport (seventeen Irish miles) is particularly interesting, as it affords extensive views of Clew Bay, and after passing Mulraney, and entering Coraawn Achill, passes round a very fine mass of mountains, amongst which a few red deer still remain. I have reason to believe that I saw some of them passing along the highest ridge of one of the mountains. At a very short distance to the west of Mulraney, the *Erica mediterranea* is found in great plenty, growing sometimes to five or six feet high, and looking like underwood upon the mountain side.

Aug. 29. Walked from the Sound to Dorga, and then crossed the Minnaane Mountain to Dookinelly, and so to the Missionary Settlement. The sea cliffs of the Minnaane are very fine, and the walk over them of great interest. At the settlement I found Mr. Coneyes (assistant to Mr. Nangle, who was absent) and Dr. Adams, both of whom were very kind and attentive to me. Lord Adare was at the hotel.

Aug. 30. *Sunday.* Saw all the children collected, to the number of more than 100. After church went to the top of Slievemore Mountains, which I found a work of some difficulty, but was well repaid by the view from the top. The mountains in Achill are remarkably steep on all sides. A very large quantity of land has been brought into cultivation by the settlement, and I found the whole establishment so far superior to what I had expected that I cannot do less than praise it.

Aug. 31. Walked through the village of Slievemore, and over a hill (leaving an old look-out tower to the right) to a pretty little lake called Lough Nageerage; then on to near the point of Saddle Head, up the face of Croghan Mountain, over it to Achill Head, returning by Keem, Dooagh, and Keel. The cliffs of Croghan are of stupendous grandeur when seen from Saddle Head, and also from their tops; they are as if a mountain of 2500 feet had been split from top to bottom, and one of the parts taken away. The cliffs also near to Achill Head are very fine. The view from the road near to Keem takes in all the mountains, from "the Pins," in Connemara, to the summit of Ballycroly.

Sept. 1. Walked to the Sound to breakfast, and returned to Newport by car.

Sept. 3. Left Newport by the mail car to Castlebar, at which place I had to remain until 3 p.m. The view from a burying ground above the town is very pretty. Reached Ballina at 6 p.m. by the Puntoon road, along the shores of Lough Conn and Lough Cullen. The part of the road near to the lakes winds more (to avoid the rocks and water) than any road that I have ever seen. The views are beautiful. . . . The town has all the appearance of being a rising place; there are two fine stone bridges, a handsome new

Gothic Roman Catholic Cathedral, good streets and houses. I saw eight or ten salmon leap quite out of the river.

Sept. 4. Lord Adare came in unexpectedly, and we went on in company to Sligo. It is a dreary road, but after the first half is passed the views of the sea and the On-mountains are fine, and continually changing. There is a fine waterfall at Ballisadare. The agriculture improves greatly as we approach Sligo, which is a prosperous, well-built town. Lord Adare and I went on immediately by car to Lissadell, the seat of Sir Robert Gore Booth, and arrived there to dinner at 7 p.m.

Sept. 5. Walked to the summit of Ben Bulben, and then followed the lower edge of the cliff quite round the two angles, finding the *Koeleria*, supposed to be *valeriaea*,* in great plenty, also *Saxifraga aïzoïdes*, and a small quantity of *Polygonum viviparum*. Then joined Sir Robert on the summit, and walked along the top to a cave on the further side of Ben Weshin, called "Lobiermot." Near the mouth of it found a great quantity of *Arenaria ciliata*. The cave is difficult of access, and the ascent from it to the top of the mountain very much so. The summit flat of these mountains is curiously marked with deep holes descending through the bog, and to some distance into the limestone. We returned across a valley called Glen Gormagh, full of bog, and singularly full of deep hollows between the parts of it, so as to make the walking very difficult. At Drumcliff, between Sligo and Lissadell, there is a fine cross of the most ancient form, and the base of a Round Tower.

Sept. 7. Left for Derry, with Sir R. Gore Booth. Bundoran is a neat watering-place near to the dirty town of Ballyshannon, at which we breakfasted. Donegal is a very poor place. To the north of this last town the road passes through a fine mountain valley for some miles, and then enters a much improved country, which continues as far as Derry.

Sept. 8. As the steamer left Derry early in the morning, I was unable to see anything of the town. We had a most interesting sail along the coast of Ireland, by the Giant's Causeway, Fair Head, etc., and by the aid of the captain's glass, saw every place very completely. We reached Campbelltown, on the Mull of Cantire, in the evening, and immediately went on board Sir Robert's yacht, the "Gleam," of thirty tons.

Sept. 9. Sailed up the estuary by Arran to Loch Gilphead on Loch Fyne, with a favourable wind, and a fine day. On board are Mr. James and Mr. Wentworth Gould, brothers-in-law to Sir Robert.

Sept. 10. This day was spent in passing through the Crinan Canal, which is conducted through a very interesting country. It now blows hard.

* Now *cristata*.

Sept. 11. Blowing hard. Walked along the coast towards the south, and then went up the mountains, but found no plants. Much pleased with my walk.

Sept. 12. Still blowing too hard to start. Walked with Mr. Campbell of Jura as far as the head level of the canal, and then botanized upon the mountain, and returned by the road. On the hill near the head level of the canal, I found *Cuscuta epilinum* in a flax field.

Sept. 13. Sailed from the Crinan, and passed through some tideways that reminded one of the Nau of Alderney. We had a splendid sail amongst the islands, by Jura and Mull, and through the Sound of Mull to Tobermory.

Sept. 14. I landed at Tobermory, to return to Oban by the steamer. Walked along the coast for two or three miles in both directions from the town, and was much pleased. The town is a pretty little place.

Sept. 15. Close to the town of Oban I found in a potato field plenty of *Lamium intermedium*, and *Galeopsis versicolor*. Went by coach to Inverary, by way of Taynuilt and Loch Awe. The views of Ben Cruachan were grand.

Sept. 16. Reached Glasgow by way of Lochgoil Head. Joined Lingwood in lodgings. British Association.

Sept. 17. Meeting of the Sections in the College. Dined at the Ordinary, which was poor.

Sept. 18. We reestablished our Extraordinary, at the "Thistle," in Glassford Street.

Sept. 19. After the meetings were over, Lingwood and I went by the coach to Lanark. *Sept.* 21. Returned to Glasgow.

Sept. 23. The meeting terminated. Lingwood and I went to Stirling in the evening.

Sept. 24. Saw Stirling Castle, which fully comes up to the accounts of it, both in itself and also the view from it. The town also is a nice place. Started at 1 o'clock by steam vessel for Edinburgh, and enjoyed the sail down the Forth. The windings of the river near Stirling are very remarkable, and the views of the Ochill Hills and the Castle, very fine. Afterwards the broad estuary is highly interesting. Reached Granton Pier at about 5 and went to the Waterloo Hotel.

Sept. 26. Breakfasted with Dr. J. H. Balfour, and then walked with a party of about twelve, to Blackford Hill, Corstorphine Hill, Craigleith Quarry, and to a fish dinner at Newhaven.

Sept. 28. Lingwood left for England. Dr. Lankester and I took lodgings at Mrs. Cossar's, 14, Frederick Street. . . . . Dined with Dr. Graham.

Sept. 29. Spent the morning in the rooms of the Botanical Society. Dined with Dr. Greville.

Sept. 30. At work in the botanical room. Supper at Edward Forbes', 21, Lothian Street.

Oct. 1. Dined with Balfour.

Oct. 2. Supper at Dr. A. D. Maclagan's.

Oct. 3. Went to the Zoological Gardens, and walked to Newhaven and Granton. Fish dinner at Newhaven.

Oct. 4. *Sunday.* After church walked with Campbell to Leith.

Oct. 5. Spent the morning in the Botanical Garden with Professor Link of Berlin, and Dr. F. J. Klotzsch of the same place. Dined with Mr. Lizars, the engraver, to meet Sir W. Jardine.

Oct. 6. Dined with Balfour, to meet Link and Klotzsch.

Oct. 7. Breakfasted with Greville.

Oct. 9. Dined with James Wilson.

Testimonial given to J. H. Balfour, M.D.

"Learning that Dr. J. H. Balfour is a candidate for the Professorship of Botany in the University of Glasgow, about to be vacated by Sir W. J. Hooker, it gives me great pleasure to be enabled to express my very high opinion of his scientific attainments, and to declare that I am fully convinced that it would be difficult to find a better successor to the above distinguished Botanist.—C. C. B."

[*Note.*—He was elected in May, 1841.]

Oct. 12. Left Edinburgh by the Dumfries mail for Sir W. Jardine's. The ride is a beautiful one, and amongst other places we passed the spot mentioned by Scott in "Redgauntlet" as the site of the escape of some of his characters.

Oct. 16. Lankester and I went to Lochmaben. The castle is very remarkable for its immensely thick walls and fine situation.

Oct. 20. Went to dine at Mr. Younger's, of Craigielands, near Beattock. We walked up a beautiful ravine, down which a brook flows from near to Auchen Castle, and visited the castle itself, which is quite a ruin.

Oct. 21. After sleeping at Mr. Younger's, we went to the mineral spring at Moffat, and in the ravine below it examined the junction of the New Red-sand with the whinstone of the country, the latter possibly representing the Old Red-sand formation.

Oct. 22. Intended to have left Jardine Hall, but could not get places.

Oct. 23. Left by the Carlisle mail at 3 p.m., and proceeding by railroad, reached London at 1.15 p.m. the next day.

Oct. 24. Arrived at Cambridge in the evening.

Nov. 9. Henslow came for a few days.

Nov. 11, 12, 13. Election of High Steward.

Nov. 23. Annual Dinner of the Philosophical Society.

Nov. 25. Dinner of the Ray Club, at Dr. Paget's rooms.

Dec. 9. Professor Sedgwick gave a dinner to the Ray Club.

Dec. 13. Frost commenced.

Dec. 14. Thermometer last night at 21°.

Dec. 15. Thermometer at 17°.

Dec. 16. Heavy fall of snow. Temperature last night 15°.

Dec. 31. Thaw. Dined with Mr. Ashton.

1841. *Jan.* 3. A very severe thunderstorm this morning, between 5 and 6 o'clock. The day turned to snow in the afternoon, which continued through the two next days.

Jan. 7. Temperature last night 12°. In the middle of to-day 21° Fahr.

Jan. 8. Temperature last night 6°. In the middle of to-day 15° Fahr.

Jan. 9. In the middle of last night the temperature was as low as 0° or even lower. I went inside to Woodford.

Jan. 11. In London. Took tea with Dr. Lankester, and met Dr. Vogel.

Jan. 12. Went to Henfield, and took Churchill Babington with me. We remained at Mr. Borrer's until Friday, and then returned by London to Cambridge.

Jan. 22. I dined to-day with Mr. R. Taylor.

Jan. 23. Arrived in Cambridge. The roads had been so much injured by the bad weather that the "Star" coach was one-and-a-half hours after its time.

Feb. 3. Had the Ray at my rooms.

Feb. 18. Dined with the Master (Dr. Tatham) at the Lodge.

March 1. Whig Dinner at the "Bull."

March 2. Dined with J. J. Smith at Caius.

March 19. The Council of the Philosophical Society dined with the President, the Master of Peterhouse, Dr. Hodgson.

March 26. Went to London, where I saw Dr. Balfour, who was in the pursuit of the Chair of Botany in Glasgow. I dined with Dr. Lankester, at University College Hospital, where he was acting as the House Physician.

March 27. Met Rothery in the street. Left London at 2 p.m. by railway, and reached Wootton Bassett at 5, and Bath by coach at 9.30.

Testimonial to EDWARD FORBES.

"Believing, as I do, that the Professorship of Natural History in the University of Aberdeen could not be held by a person better qualified to fulfil its duties with honour to himself and advantage to the University than Mr. Edward Forbes, it gives me great pleasure to testify to his high scientific attainments, and to his enthusiastic and successful pursuit of Natural History, and to recommend his appointment to that distinguished office.—C. C. B."

[*Note.*—He was too late in his application].

March 30. Attended the wedding of Miss F. Bates and Thomas Pycroft, at St. Saviour's Church. Mrs. Bates afterwards gave a breakfast to a very large party, and Mr. Pycroft the elder gave a large dinner party.

April 12. Went with T. Fortune to Bristol, and examined the large iron steam vessel now building by the Great Western Steam Ship Co., and also the fine machinery for the manufacture of its engines, etc. The vessel is to be worked by means of the "Archimedean Screw." Afterwards we went to look at the progress which had been made in the Clifton Suspension Bridge. At this time the piers upon both sides are complete.

April 15. Mr. Haslam and I walked to Wyck, examining by the way the Hanham (?) rocks for *Gagea lutea*, but could not find it. Dined with a party at my uncle's, Dr. Whitter's.

April 16. To-day we walked to Warleigh, where we found by the footpath some peculiarly fine *Morels*, and then along the top of Farleigh Hill to Bathford, and home.

April 17. We walked to Ashley Wood, and found *Lathraea squamaria* in plenty, and South Wraxhall—Wraxhall Hall is fast going to decay—returning by Monckton Farleigh. My aunt had a party to meet the Haslams this evening.

April 20. Horticultural Show in the Botanical Garden at the Park.

April 21. Haslam and I walked over Charmy Down to the upper end of St. Catherine's Valley, and found great plenty of *Helleborus foetidus* and one plant of *Doronicum Pardalianches*, the latter not yet in flower; returned by Batheaston, after inspecting the fine old house at St. Catherine's. Dined with Haslam.

April 22. We walked to-day over Claverton Down to the Aqueduct, and along the valley to Midford Castle, then by Coombe Down home. Dined with Dr. Totty.

April 23. Attended a meeting of the members of the Bath Horticultural and Botanical Society to pass some new laws, and was one of a committee for the revival of some of them. Dined with Dr. R. W. Falconer.

April 24. Dined with Mr. Walmesley.

April 27. Left Bath at 7.40 a.m. by the "Eclipse" coach to the Wootton Bassett station, and reached London at 2.15 p.m. Left town at 6.30 p.m., and reached Cambridge at 1.30 a.m. April 28.

May 4. Dined with the Vice-Chancellor, Dr. Graham, Christ's.

May 5. Ray Club met at my rooms.

May 8. Dined at Caius to meet G. V. Jackson of Mayo.

May 15. The Botanical party to Burwell Fen. We had a very fine day, but it was rather too early in the season, so that but few of the plants were come into flower.

May 17. Dined with Bateson to meet a party of Whigs.

May 18. Dined with Professor Willis.

May 19. In Hall at Jesus, with Ansted.

May 20. Mr. Haslam came to spend a few days here, and joined the Botanical party to Gamlingay on the 21st.

May 22. Haslam and I walked to Cherry Hinton and over the "Gogs," returning by the Hills Road. Found a few of *Anemone Pulsatilla* in flower, also *Cineraria campestris*; *Bunium Bulbocastanum* getting far on towards flowering.

May 24. Haslam and I went to London together, and attended the meeting and Anniversary Dinner of the Linnean Society.

May 25. Called upon Lord Adare, but found that he had that morning left town. Haslam introduced me to Dr. Hoskins of Guernsey.

May 27. Dined at Downing; it being Henslow's last day in Cambridge.

May 28. Breakfasted with Lucas at Downing.

May 29. Dined with Sedgwick to meet the Ray Club.

June 10. After some peculiarly fine and hot weather, it now became so cold as to require fires again.

June 11. The thermometer showed 50° and 52°.

June 14. Left Cambridge by the "Star," and reached Bath at 7.30 p.m. the same day.

June 15. Went to tea at Lady Carrington's, in the Circus, to meet Miss Trevelyan, to whom James Gisborne is going to be married.

June 16. Haslam and I walked to Monckton Farleigh and Wraxhall, and found plenty of *Ornithogalum pyrenaïcum*, etc.

June 19. Went with W. Falconer to Wyck. We gathered *Sedum album* on the ledges of the rock near to the lime-kiln on the north side of the river.

June 21. Walked with Haslam to Prior Park to shew the station for *Euphorbia pilosa* to Major Champ.

June 22. Horticultural Show at the Victoria Park. I spent the whole day there, to assist the committee, and dined with them afterwards.

June 23. My aunt Bedford, Miss Nash, Dr. Falconer, and I went by the rail to Weston-super-mare. Falconer and I walked out all the morning to botanize; we went along the shore to the mouth of the river Axe, intending to cross over to Brean Down, but learned that if we did so, we could not be home in time to return to Bath. We found *Trifolium maritimum* near the river mouth on a bank, and *Ophrys apifera* and *Oenothera biennis* (not in flower) in a small wood at a short distance from the sea through which we returned. After skirting the town on the land side, we ascended the hill on the north by a rustic road close to the sea, and found *Urtica dioica, var., longifolia.* By the side of the road to the baths, upon heaps of rubbish, we found *Reseda alba* or *fruticulosa* in plenty. Having left Bath at 8.30 a.m. we got back by 10 p.m. We were out in several heavy storms.

June 28. The nomination of candidates for the Bath Election; all went off very well. The Tory party made an attempt upon the flags of the reformers, which was returned by their having all their own destroyed. In other points the day went off quietly.

June 29. This morning James Gisborne was married to Miss C. Trevelyan, at Walcot Church. Lady Carrington, her mother, gave a grand breakfast afterwards at No. 30, Crescent. The Bath Election, at which Lord Duncan and Roebuck were returned by a great majority over Powerscourt and Bruges. Dined with Dr. Falconer to meet Bell of Oxford.

June 30. Great Western Railway opened throughout. Chairing of the members. A splendid procession of the trades and gentlemen's carrriages. A fine day, and all went off quietly.

July 2. Falconer and I went by the railway to Chippenham, and then walked to Langley Marsh, where we found several interesting plants: *Cnicus pratensis, Serratula tinctoria, Myosotis versicolor, Habenaria bifolia* (Bab.), etc. The marsh is not now nearly as wet as it appears to have been lately; it is covered with fern, gorse, high grass, and young trees, and is of considerable extent. We returned by the railway. Dined at the "White Hart" with the friends of the new members, Lord Duncan and Mr. Roebuck.

July 3. Left Bath by the railway to Bristol, and then by the "Victory" steam vessel (Capt. Parker). Started for Cork. On our way down the Channel, we had the good fortune to meet the Great Western Steam-ship just arriving from its voyage. We went

close to it, so as to have a good view of it when under way, and certainly it was a very fine sight.

July 4. At sea all the day, as we did not reach Cork until 6 p.m., after a short passsage of twenty-four-and-a-half hours. Went to the "Imperial" Hotel.

July 5. Walked to Blarney by a very round-about way, and gathered several plants, but none of much interest. The castle is a fine ruin, and the celebrated "Stone" is certainly an odd one, but what it has been I am quite unable to say. The "Groves" are well worth a visit, and quite different from anything that I have seen elsewhere. Walked to Blackrock in the evening with Mr. H. Jordan, a gentleman of Bristol, with whom I formed a slight acquaintance on the steamer.

July 6. Went to Killarney by the coach, in the face of a remarkably cold and high wind.

July 7. I went to-day along the Kenmare road, as far as the upper lake, and employed myself in the study of the *Saxifrages*. I was much grieved to find that Lord Kenmare's gardener had quite extirpated the *Trichomanes* in the place where I gathered it in 1835.

July 8. Started at about 9 a.m. and went up the old road to Kenmare, passing behind Turk mountain, as far as it continued to ascend; and then returning went to the top of the Turk mountain, and descended through the wood to the lake by a very difficult climb. On the ascent of the back of the mountain I found two *Carices*, which I am unable to determine in a satisfactory manner, and rather suspect one of them to be new. On the top I found *Pinguicula grandiflora* still in flower, and also in one place (under a rock near the top of the main summit, the last facing the W.N.W. by N. by compass) *Saxifraga elegans* (?) and *S. umbrosa*, common on the upper parts. The view of the lakes from this elevation is peculiarly fine, and it well deserves a visit. The woods and slopes of the mountain are quite covered with *Euphorbia hiberna*, which is now in great perfection.

July 9. Went to Tralee by the car, but could not get on to Dingle, so walked down to Blennerville over the marshes, and found *Scrophularia nodosa*, with pale flowers.

July 10. Went to Dingle in the evening by the mail car, starting at 6.30 p.m. and not reaching that place until 11.30. This day Ensign G. Grove, 90th Regt., walked with his men to Dingle, over Connor Hill, in the rain, and was nearly killed by it.

July 11. Dingle is a nice little town, and the inn, kept by Mrs. Jefcott, an excellent one. In the churchyard there is an old tombstone of one of the Earls of Desmond, who died 1506.

July 12. Walked to Connor Hill, a lofty mountain pass, over which one of the roads to Tralee passes; the old track is most

curious, going in a zigzag manner up the almost perpendicular side of the mountain. I found here, on the cliffs, plenty of *Saxifraga geum* and *umbrosa*, but could not fall in with the *Sibthorpia Europaea*, which has been found here by former botanical visitors. The view from the top, including Brandon mountain, which was moderately clear, is fine.

July 13. Went to Gallerus, and saw the hermitage and castle, described in Lady Chatterton's book, and found them, the former in particular, highly interesting. Then crossed the Smerwick Strand to Sybil Head, which is nearly as fine a cliff as has ever come under my notice. Returned by Fermeter's Cove and Ventry Harbour. There is a fine ruin of a castle surrounded by an ancient rath on the hill side above the latter, which I did not visit, for want of time. The whole of this day's walk was highly interesting on account of the splendid mountain views, although I did not find any rare plants.

July 14. Went to-day by Ventry to the northern part of Mounteagle, but found no plants.

July 15. St. Swithin's Day. This day and the next were the only really dry days during my stay at Dingle. Saw the old church at Killmachedor, in the early Norman style of architecture; in the churchyard are a curious cross and a very rude Ogham stone (see Lady Chatterton's book). In a neighbouring deserted village there is a curious cave extending to some distance under the ground, and formed probably for temporary security from invaders. To the south of Killmachedor there is a rath formed of a broad wall of loose stones, and within it several conical cells formed by the stones being laid in horizontal courses projecting inwards, more in each succeeding course, until they meet at the top. Several of them are perfect, but the tops of most have fallen in.

July 16. To-day I ascended Brandon mountain from Ballybrack, on which side it is peculiarly easy to reach the summit. Unfortunately the summit was clouded, so that I could not see the view. I found some *Saxifrages* in the place formed as a shelter near the top, and also on the cliff, but feared to descend into the latter on account of the wind and mist. Dan Sullivan of Ballybrack went with me.

July 17. Again to Connor Hill, and found *Saxifraga hirsuta* (?) under a rock at a short distance directly below the zigzag road. Rain came on before I left the hill, and continued until I got back.

July 18. Mr. Grove and I went to see the Ogham stones, described by Lady Chatterton, at Ballintagart.

July 19. Went to Mounteagle, and ascended the cliff to look for *Trichomanes*, which was found there by Mr. Andrews, but did not get it. Went to the summit of the mountain to see the Blashets, and then returned. Hard rain all the evening.

July 20. A very wet day. At Dingle I became acquainted with Dr. Williams and Mr. Thomas Eagar.

July 21. Left for Tralee and Killarney, which latter place I reached in the evening.

July 22. Walked to the Gap of Dunloe, and after a great deal of trouble, found *Saxifraga hirsuta* (?) under detached rocks near the upper small pool only. On my return called upon Mr. M. J. O'Connell at Grena, and saw him and his father John O'Connell, with both of whom I was much pleased.

July 23. Went to Kenmare, and spent the day with Dr. Taylor at Dunkerron.

July 24. Returned in the morning to Killarney, and proceeded by the coach to Limerick, where I spent the following day, being Sunday.

July 26. Ascended the Shannon by the steamer to Shannon Harbour, but unfortunately the day was very wet, so that I did not see the most distant views. I had intended to have stopped at Portumna to hunt for *Teucrium Scordium*, but was prevented by the wet.

July 27. By the canal to Dublin; a most uninteresting route.

July 28. In Dublin with Mr. Moore and Mr. Mackay. At 10.30 p.m. left by steamer for Liverpool, and arrived there the next morning at 9.30. The next evening started by the "Achilles" steam-ship for Glasgow at 8.30, and arrived there after a rough passage at 8 p.m. the next day, July 30.

July 31. Reached Edinburgh, and took up my quarters at Dr. J. H. Balfour's, 15, Dundas Street. Went to Granton Pier to see W. H. Campbell off for London, and dined there.

Aug. 1. *Sunday.* Heard the Rev. Mr. Binney.

Aug. 2. Went to the college to see the conferring of the M.D. degree, which is done by putting a round cap upon the head of each of the candidates. At 3 p.m. left for Glasgow, and arrived there so as to join the party that was going to the Hebrides. Dined and spent the evening with Professor Thompson, M.D., who remembers my father as a student at Edinburgh.

Aug. 3. The names of the party to the Hebrides are: J. H. Balfour, W. Marshall, C. C. Babington, R. M. Blamey, R. T. Hole, Henry Hinson, James James, and W. F. Mactier. We slept at the "Clyde" Hotel, and went on board the "Shandon" steamer at 5 a.m. At the Crinan Canal changed to a swift boat, and again on board a steamer, the "Brendon," for Oban. The vessel was so full of passengers as to make it inconvenient to move about. At Oban again changed into the "Toward Castle." . . . Reached Tobermory in Mull at about 11 p.m., after a very pleasant day's voyage.

Aug. 4. Left Tobermory at 3 a.m., and was greatly pleased by remaining upon the deck as we passed round the Point of Ardnamurchan, and by Arisaig to Armadale in Skye; where we were met by C. Macdonald, Esq., of Ord; and Balfour and I landed, and walked by the castle and woods of Armadale to Captain Macdonald's at Ostaig, where we breakfasted; went on to Knock, and then crossed the interior to Ord, where we arrived to dinner, and remained for the night at Mr. Macdonald's. The house is pleasantly situated on the shore of Loch Eishart, and has considerable remains of the natural wood in the neighbourhood. The Coolin Hills are seen to great perfection from Ord, and were quite clear in the evening.

Aug. 5. Mr. Macdonald conveyed us over the mouths of Lochs Eishart and Slapin in his boat, and landed us on Strathaird, near to the house of Dr. Norman MacAlister, to which we went. Soon afterwards Mr. MacNab and the rest of the party arrived, who had landed at Broadford, and come across the country with the baggage. Mr. MacNab returned with it, but the rest of the party remained for the night at Dr. MacAlister's, where we were most hospitably received. At Ord saw *Carduus heterophyllus*. Saw *Rumex aquaticus* at Strathaird.

Aug. 6. Balfour, Hole, Mactier, James, and I went to Capt. John MacMillan's, at Camasunary, where we found a curious variety of *Apargia autumnalis* on the roofs of the buildings, and then passed by a very difficult walk round the point of the land to Loch Scavaig. Walked up the west side of Loch Coruishk, and saw many curious granitic veins in the blocks upon the shore, also several fine eagles. The day was wet, but still we saw the mountains in great beauty. The Coolin Hills are by far the finest mountains that I have seen, and present a most curious serrated outline; their slopes are formed of smooth, bare, black rock, so as to be almost inaccessible, and peculiarly bare of plants. At the head of the valley we turned to the right, and passed over the mountains by a pass of singular difficulty; then turning the wrong way we went by mistake to Loch Brittle, and had to obtain a guide to shew us the way to the inn at Sligachan, which we reached after a most laborious day, at 9 p.m., and joined MacNab and the rest of the party. On the Coolin Hills we saw but few Alpine plants, viz. *Alchemilla alpina*, *Arabis petraea*, *Salix herbacea*, *Thalictrum alpinum*, *Saxifraga stellaris*, and *Luzula spicata*.

Aug. 7. A very wet day. Walked from Sligachan to Dunvegan in heavy rain, after gathering *Eriocaulon* at the former place in great plenty, and also *Carex pauciflora*. Started at 10 a.m., and reached Dunvegan, a distance of twenty-six miles, at 6 p.m., most of the party quite wet to the skin. I was more fortunate. By the way found a curious form of *Taraxacum-dens-leonis*, allied to *palustre*, but not that plant. Near Bracadale the basaltic hills are highly interesting, and continue to be so as far as Dunvegan.

Aug. 8. *Sunday.* There is a nice inn at Dunvegan, and the Castle of Macleod of Macleod is highly interesting, and is now undergoing a thorough repair. Near the castle *Mimulus luteus, Prenanthes purpurea*, and *Gnaphalium margaritaceum* are quite naturalized, having escaped from the garden into the woods. *Rumex aquaticus* is common, and *Petroselinum sativum* is on the rock of the castle. Went to the church at 2 p.m., and had an English sermon and a Gaelic prayer. We saw Dr. MacCaskill, a friend of Edward Forbes. The church is a good one. The view of "Macleod's Tables," two flat topped mountains is curious; below the inn on the road-side we saw *Orobanche rubra* and *Orobus sylvaticus.*

Aug. 9. Left Dunvegan by the packet for North Uist after breakfast, and were becalmed almost as soon as we had reached Dunvegan Head, where we remained all day, and did not reach Loch Maddy in North Uist until the next morning at 11, being thus twenty-four hours about the voyage of twenty-five miles. We were near being starved, as there were no provisions on board, and we failed in obtaining any from a ship that was near to us. Macnab fortunately had a small supply. We were much amused by the number of fine Medusae that came near to the vessel, many of which we caught, and examined with great interest.

Aug. 10. Found three large ships in Loch Maddy, for the purpose of conveying emigrants to Cape Breton. The poor inn was quite full of people, either going away or come to see them off, so that we could get no accommodation whatever. We walked to the western part of the island, and found a sandy district of great fertility and beauty, but did not find any plants of rarity, although many that were interesting from their locality, such as *Papaver Argemone, Hippuris, Lycopsis arvensis*, etc. On our return we ascended a hill called Knockgarre, of no great elevation, and were well repaid by the view over the interior of the island, in which it is difficult to say if the land or the water predominates. The ramifications of the sea and fresh-water lakes are so great, as to present the appearance of an immense number of distinct lakes covering nearly half the surface of the country. Surrounding this wet district is an enclosing boundary of rather elevated bare and dry mountains. Near to the top of the hill we found *Salix herbacea.* There are good roads in Uist, although MacCullach says that there are none. At night we had to accommodate ourselves as we could upon the floor of the room in which we had been sitting, as all the rest of the house was quite full of people, and we were entertained (?) nearly all night by people dancing in heavy shoes over our heads, so heavily as to make us fear that the floor would be brought down upon us.

Aug. 11. Started by a boat soon after 5 a.m. for Obb in Harris, which we reached after a pleasant sail; to breakfast at a small, but neat and comfortable inn. We went up a low hill near to the Point of Rowadill, and had the most splendid view that can be

conceived, over the Sound of Harris, North Uist, etc., and including the mountains of Ross-shire, Skye, and numbers of the islands all round the south as far as St. Kilda. On the north side the mountains of Harris. We examined this district carefully for *Ajuga pyramidalis*, but could not see any trace of it. Here are some flourishing woods, the only ones I believe in the Long Island. Near to the Point is an interesting old church, which was a cathedral in old times, and has now, much to the disgrace of the proprietors, been allowed to go to ruin. The architecture is of the style, I believe, called "Decorated," and has a number of curious carvings about it. There are some fine monuments to the old MacLeods of Harris, particularly one to Alexander, son of John MacLeod, dated 1528. It has a canopied opening over a prostrate statue with most remarkable carved figures upon the wall, representing the Virgin and Child, bishops, etc. Mr. Murray, the schoolmaster at Rowadill, kindly gave us information as to our further proceedings, of some value.

Aug. 12. Left Obb at 8 a.m., and walked by the southern part of the island and along some sandy shore to Scavester. Saw on the sands *Blysmus rufus*, and many of the plants of the western parts of North Uist. At Scavester, called upon the Rev. Mr. MacIver, the minister, who received us kindly, and gave us full direction for the further part of our route to Tarbert. Soon afterwards we forded an arm of the sea, and then turned over the mountains in the direction of Tarbert, which place we reached at about 6 p.m.

Aug. 13. Went to a hill called Chesham, the highest land in the island, about 2700 feet; long before we had reached the top it was covered by a thick mist, so that we lost the view for which we most desired to ascend its top. We found scarcely any Alpine plants: *Poa alpina*, *Alchemilla alpina* being nearly the whole number, but there were numbers of the more common plants of the lower country.

Aug. 14. Went this morning by water to Loch Meavig, and ascended Lanya, the second highest hill in the country, and as the day was fine, we had a grand view all over the country. The glen between this hill and Chesham and their neighbour is of a grand Alpine character, and on the whole this part of Harris Forest is equal to any mountain district with which I am acquainted, except the Coolin Hills. We found very few Alpine plants, only *Luzula spicata*, *Thalictrum alpinum*, *Saussurea alpina*, *Salix herbacea*, *Hymenophyllum Wilsoni*, *Aira alpina*, and a few others. I returned to the boat by the glen on the north-west side of the hill, and had a very long walk. The day was peculiarly fine.

Aug. 16. Left Tarbert at 6 a.m. in an excellent boat belonging to the inn-keeper, Mr. Morrison (who made us very comfortable during our stay), and landed on the Shiant Isles for two or three

hours to hunt for the *Menziesia caerulea*, which is reported to have been found there; we found nothing like it, except *Empetrum nigrum*, after a careful search, and are convinced that it is not to be found in these islands, but that some mistake has taken place about the locality. We arrived at Stornoway at 6 p.m. The cliffs of the Shiant Isles are formed of fine basaltic columns, and in one place there is a miniature "Giant's Causeway;" we saw there peculiarly large specimens of *Carex binervis*, *Lychnis dioica*. The rocks are perforated with fine arches in several places, and on the whole the islands are well worthy of a visit. Stornoway is a large town of 3000 inhabitants, and makes a good appearance, being built along the shores of the bay for an extent of nearly a mile. Many of the houses are very good, and there is a good inn kept by Mr. MacIver.

Aug. 17. We started this morning for the Butt, in company with Mr. Mackenzie, the Sheriff Clerk, who was of great use to us during our trip to the Butt. The interior of the country as far as Barvas (on the west coast) is an extended uninhabited moor, producing scarcely anything except heath. Far to the south we saw our old friends Chesham and Lanya, and to the north was the much lower (but highest hill of that part) Murmaich. Near Barvas the usual sandy district occurs, and with it the same rich vegetation that we had seen in other places; we saw *Lamium intermedium*, *Juncus balticus*, and many other plants. We were informed that the people give the roots of the *Petasites vulgaris*, which abounds, to the cattle in the winter. At Barvas we called on Mr. MacRae, the minister, and the schoolmaster, Mr. Nicholson, and then walked on towards the Butt, calling at Galson, the residence of Mr. Macgregor, on our way, and reached the school-house of Ness about 9 p.m. Mr. Finlayson, the minister, most kindly received us into the Manse for the night.

Aug. 18. Rose early, and walked by the new pier at Dun Errodale along the coast by Sto Harbour to the Butt, and so back to the school-house. The cliffs are fine all the way round, but more particularly so at the Butt itself. At Sto Harbour I found the largest specimens of *Sagina maritima* that I have ever seen, also *Ranunculus sceleratus*, *Pyrethrum maritimum*, *Carex extensa*, etc. We went on to Galson to breakfast by invitation, with Mr. Macgregor. After that it began to rain, and we had a very wet walk to Barvas, so that we were obliged to give up our plan of going on to Callernish, and remained at Barvas for the night. The minister, Mr. MacRae, received us most kindly to dinner and to sleep.

Aug. 19. A wet morning, so that we could not start until the middle of the day, when it cleared up, and we walked back to Stornoway. Balfour and I went down to the sands at Barvas, and round the west end of the Loch before starting, but found no plants of interest. We intended to have gone to Callernish to have seen

the Druidical remains there, which are of high interest, but unfortunately the packet to Poolewe was to sail the next morning, and therefore we had to give it up.

Aug. 20. At 5 a.m. we went on board the packet for Poolewe, and were again becalmed upon this usually stormy sea, so that we did not reach that place until between 2 and 3 o'clock the next morning.

Aug. 21. After breakfast we started by boat up Loch Maree, which is certainly in my opinion, the finest lake that I have seen. On the cliffs above the lake *Pinus sylvestris* is found, and also plenty of *Arbutus Uva-ursi.* At the head of the lake we again took to our legs, and walked to Auchnanault, a distance of eighteen miles. Near to Loch Maree some of the bare quartz summits of the mountains assumed very curious forms, particularly one very remarkable hill on the south-east of the upper end. At the eastern end of Loch Roshk, near to a cottage belonging to Sir Colin Mackenzie, is a most remarkable series of lofty mounds, almost closing a lateral valley, and presenting the appearance of a gigantic fortification. They are probably the moraine of an ancient glacier, and are composed of sand and gravel. The inn at Auchnanault was quite full, most of it being occupied by Sir Colin Mackenzie and his family. He was very polite to us, and invited us to call at his seat of Balmadutty in the Black Isle. Some of us went on in a carriage to Dingwall, where we arrived at 2 a.m. Some others walked to Garve, where there is a good inn, and came to Dingwall the next morning.

Aug. 22. Drove to Fir Wood near Coul, and hunted for *Pyrola uniflora* in its old station, but failed in finding it. Saw *P. secunda* and *P. media*, *Trientalis Europaea*, *Listera cordata.* Passed through Strathpeffer, on our way and return, and were much pleased with the neat appearance of it. It is a watering place. Ben Wyvis has a grand appearance throughout all this district. Here our party broke up, and some of them went immediately towards the south.

Aug. 23. Dr. Balfour and I walked across the Black Isle by Balmadutty, and Avoch to Fortrea, and so over the ferry to Fort George, where we were most kindly received by Major Fraser in the fort. Saw plenty of *Lithospermum maritimum* on the shingles near to Fort Rose.

Aug. 24. Near Campbellton is an old fortification, called now Cromwell's Fort, a corruption of the Gaelic name, as it is an old earth-work, and has nothing whatever to do with Cromwell. Here grows *Dianthus deltoïdes*, and in fields near, *Rhinanthus major* (?). We went by Flemington, the house of Major Fraser, and saw near to it *Hypochoeris glabra* in profusion, and so forward to Cawdor Castle, where we remained with Mr. Stables. The old castle is highly interesting, and is kept up in the original style. The woods

peculiarly fine, and a fine glen passes through them. Balfour found *Monotropa Hypopitys*, and we saw *Goodyera repens*, *Festuca Calamaria*. The glen is the deepest and narrowest ravine that I have ever seen, and well deserving, as are the woods, of a careful examination by the botanist.

Aug. 25. We walked over Culloden Moor to Culloden House, where we were kindly received by Mr. Forbes of Culloden, and then went on to Inverness. We ascended the hill Craig Phadric, and examined the vitrified fort there.

Aug. 26. Left Inverness by the "Duke of Wellington" coach for Perth, by the Highland road, by Aviemore, Strathspey, Blair Athol, Dunkeld. The station for *Menziesia caerulea* is upon the Sow of Athol, at just the middle of the road between Dalwhinnie and Dalnacardoch. The ruins at Dunkeld are left in good order, and are very fine.

Aug. 27. From Perth to Edinburgh by Kinross; saw Burleigh Castle and Loch Leven. Crossed the Queen's Ferry, and so reached Edinburgh.

Aug. 28. Again took up my quarters with my excellent friend, Dr. J. H. Balfour.

Aug. 29. Continued with Balfour till Tuesday, Oct. 5th; working at the second edition of the Botanical Society Catalogue, the fourth and fifth Reports of the Society, the conclusion of the first and the whole of the second part of the Transactions; all of which we completed. During that time dined with Mr. Roy, J. Goodsir, Campbell, Greville. Campbell started for Demerara, on Sept. 25th.

Oct. 4. Balfour, J. Duncan, G. Paterson, Brand, Fred. Douglas, Jos. Dickson, and I dined together at Mrs. Clark's Hotel, at Newhaven.

Oct. 5. Left Edinburgh at 7 a.m. for England, and had a very wet journey; it rained heavily during the whole day until we got within one stage of Newcastle. Went by way of Kelso. Reached Darlington at 12.30 a.m., and started again by the railroad at 6.15 a.m., reaching Derby at 1 p.m. On the way from Edinburgh it happened that Mr. Evans and William were upon the same coach, and so we went on together, and I went with them to Allestree Hall.

Oct. 7. The same three went to Yoxall Lodge.

Oct. 11. Left Yoxall Lodge, and reached London in the evening.

Oct. 12. Made arrangements with Baillière about the publications of the Botanical Society, Edinburgh. Examined a herbarium that Pamplin has to dispose of.

Oct. 13. Arrived in Cambridge.

Nov. 6. Purchased the herbarium of Dr. Leo, of Metz, for £94 10*s.*

Nov. 12. Overton and I walked to Shelford and back, between 10 and 12 in the evening, to look for the annual meteors that appear at this time. We saw a considerable number at about 11 o'clock, particularly one very bright one, which left a long train of fire behind it.

Nov. 13. Intended to have looked out again to-night, but was prevented by heavy rain.

Nov. 14. Snow; which continued on the ground until the 18th, and several of the nights the thermometer shewed 24° or 26°.

Nov. 22. Dinner of the Philosophical Society at the "Eagle," thirty members were present.

Nov. 24. Dinner of the Ray Club at Stokes' rooms, all the members were present, either at dinner or afterwards, and Professor Clark and Miller, Mr. Kingsley and Mr. Goodwin were there as visitors.

Dec. 24. Dined with Dr. Clark to meet Prof. Owen.

Dec. 25. Dined in Hall at Trinity.

1842. *Jan.* 18. Gave up all idea of being a candidate for the Chair of Botany in King's College, London, not wishing to undertake to commence a course of sixty lectures at such short notice as from February to May. Went to London, and dined at the Linnean Club.

Jan. 20. Returned to Cambridge.

Feb. 15. Went to town, and dined at the Linnean Club. Voted for R. Kippist, as Librarian of the Linnean Society.

Feb. 16. Breakfasted with Dr. Lankester, afterwards met Mr. Borrer at J. Sowerby's, and went to Woodford with Mr. Forster.

Feb. 17. Returned to Cambridge. Professor Royle persuaded me to allow him to endeavour to persuade the King's College Professors to appoint me to the Chair of Botany, he taking the lectures for the present year. I have determined to make no personal application to them.

Feb. 22. Dined with Ansted to meet Mr. Bunbury, Sec. G. S.

Feb. 23, 24. Spent a considerable portion of these days with Mr. and Mrs. Lukis of Guernsey, who were here with W. C. Lukis.

Feb. 25. Dined at Anstey Hall, Trumpington, with Eben. Foster, Esq.

March 26. Went to Bath for the Easter holidays.

April 1. This day my name appeared for the first time on the cover of the "Annals of Natural History," as one of the Editors of that Journal.

April 5. Left Bath. Dined at the Linnean Club to meet Jussieu and Richard, the French botanists. Professor Royle informed me that the King's College Professors had determined not to make any recommendation of a person to fill the Chair of Botany for the present, and that he was going to lecture this year.

April 6. Called upon Professor Budd, of King's College. Dined with Royle, and went to the Geological, where a very interesting discussion occurred between Dr. Grant and Mr. Owen.

April 7. Royle introduced me to Professor Daniell, of King's College, and also to the Principal of the College, Mr. Lonsdale. Returned to Cambridge.

April 11. Dined with F. J. Gunning to meet Mr. Morgan John O'Connell.

April 12. Dined with Arlett of Pembroke to meet the same.

April 26. Wrote to Dr. Royle to decline becoming a candidate for the Botanical Chair at King's College.

May 4. Dined with Sedgwick to meet the Ray Club.

May 13. Went to Ely to dine with the Dean, as President of the Philosophical Society, and slept at the Deanery.

May 17. Set Henslow's botanical paper to the medical candidates in the Arts School: only three candidates! Commenced my duties as Local Treasurer of the British Association for the Advancement of Science at Cambridge.

May 28. Went to London, and spent the following three days at Mr. Edward Forster's, at Woodford.

May 30. Went with a party of the Linnean Club by Brighton railway to Redhill, and then walked to the chalk hills above Reigate, and saw the cave in the Castle Hill said to have been used as a place for consultation by the Barons, in King John's time. We saw but few plants, and none of much interest. Returned in the evening.

May 31. Mr. Brown, Mr. R. Taylor, Mr. H. Solly, and Mr. Bennett dined at Mr. Forster's.

June 1. Returned to Cambridge.

June 8. Went to Hitcham.

June 9. Henslow and I went to Hadleigh. A remarkably handsome church and parsonage.

June 10. Found *Myosotis sylvatica* in plenty in Hitcham wood, with peculiarly large flowers.

June 11. Went to Ipswich to meet Holmes, and then with him by coach to St. Margarets.

June 14. We went to Aldeburgh in a gig, and were so unfortunate as to be upset by a horse-hoe, of Mr. Garrett's, running upon

us, from the horse having taken fright. Neither of us was seriously hurt, but my right arm and elbow were bruised and cut considerably.

June 15. Walked to Orford Ness, and found *Lathyrus pisiformis*, *Sclerochloa Borreri*, *S. distans*, *S. maritima*, *Spartina stricta*, etc. After dinner went the other way from the town.

June 16. Took a boat upon the river to Orford, and hunted well in Ray's locality for *Medicago muricata*, but came away quite satisfied that it does not now exist there. Found *M. minima*, *Vicia lathyroïdes*, and several other plants in a sand pit on the Castle Hill. The church has been a very fine one, but is partially ruined. Returned to St. Margarets.

June 17. Walked to Redenhall.

June 18. Returned to Cambridge.

June 22. Left for the summer, going by way of London, and then by the night-mail train to Manchester, where I arrived the next morning, and immediately went into lodgings with Dr. Lankester, at No. 17, Faulkner Street, for the British Association Meeting.

June 26. *Sunday.* Went twice to hear Dr. Halley, a celebrated Nonconformist minister, and was greatly pleased.

June 29. The meeting concluded this day. It was thinly attended. Our "Red Lion" party dined several times at the "White Bear."

June 30. This day I went with about 400 others, by boat, to see the tunnel and mines at Worsley, but we saw only the tunnel, and after going about four miles underground, were told that we might go three miles further, but that there was nothing more to see, so I and many others went up a shaft of sixty yards, and walked by the new Hall back to the entrance of the tunnel, and so back by the boats to Manchester, having had considerable fun, but seen nothing worth the trouble.

July 1. Went to see some of the works at Manchester, and the exhibition of machines collected for the meeting.

July 2. Left in company with Mr. Winterbottom for York.

July 3. At York. Mr. Baines of the Yorkshire Museum walked with us up the river, and we gathered *Barbarea stricta*, and also (for the first time so far south) *Rumex aquaticus*. Also walked to Heslington Field, and saw many interesting plants.

July 4. Started at 7.30 a.m. by rail in the hope of getting breakfast at Darlington, but could not get time, and so went on to Barnard Castle for it. We went on to Middleton and High Force in Teesdale. We found the fall very full of water, and it continued to rain hard all the evening. Mr. James Backhouse, of York, is here botanizing.

July 5. We walked to Cronkley Fell, and found *Tofieldia palustris*, *Helianthemum canum*, *Draba incana*, *Hieracium pulmonarium*, and *amplexicaule* (?). The day was most stormy, and very wet. High Force very full of water, and fine. By High Force we found *Crepis succisaefolia* in plenty.

July 6. Went to Widdy Bank, and found *Tofieldia palustris*, *Carex capillaris*, *Gentiana verna* in fruit, *Bartsia alpina*, *Kobresia caricina*, and several others; thence to Falcon Clints, where we found *Woodsia ilvensis*, *Hieracium Lawsoni*, and *pulmonarium*; also *H. amplexicaule* (?), etc. Crossed the bridge at Caldron Snout, which was full of water, and extremely fine, then forded the Maize Beck, after finding *Saxifraga stellaris* and *Botrychium Lunaria*, and crossed the boggy moor for several miles towards Mickle Fell, but finding nothing returned over Cronkley, and descending at the further end, found *Epilobium alsinifolium* in a spring head near the bottom, far from the river. Returned over Cronkley Bridge.

July 7. We went to Wynch Bridge, and found *Hieracium rigidum*, *Lawsoni*, *amplexicaule* (?), and *villosum* (?). Also *Thlaspi alpestre*, *Potentilla salisburgensis*, etc.; then to Holwick Scar (a fine basaltic cliff, but too dry for plants), and returned on account of rain.

July 8. The Messrs. Backhouse left. We went to Widdy Bank and Falcon Clints, and found (on the basalt) some more *Woodsia*, and also (on the limestone) at the lower end, *Potentilla salisburgensis*. On our return we gathered, from a bend in the little beck running into Langdon Beck, *Potamogeton longifolius* (?) and in a bog near the turnpike road *Epilobium virgatum*.

July 9. Went over Cronkley Bridge, and then to the top of Green Fell; returned to the south side of High Force, and followed the river to Wynch Bridge, but found very little, a few specimens of *Hieracia* and *Rosae*.

July 10. In the afternoon walked down the road and up the old one, where we gathered what may be the true *Hieracium sylvaticum*. Hunted for *Vaccinium uliginosum* in a boggy place behind Moon Rigg's house, where it is said to grow, but could not find it.

July 12. Went up Ettersgill Beck to near its source. The lower part is highly picturesque, although on a small scale, being a succession of small waterfalls, and a winding ravine with rugged cliffs. Found there *Vicia sylvatica*, *Myrrhis odorata*, and several Roses. Then crossed a succession of curious cavernous limestones to the upper part of Langdon Beck, returning by the road.

July 13. Walked to Barnard Castle; calling on the way upon the Rev. Wilse Brown at Egglestone, and dining with him. Went by coach to Durham.

July 14. Winterbottom and I separated, he going south, and I by way of Sunderland and the Brandling Railway, to Newcastle. Took tea with Mr. Alder.

July 15. Went by Carlisle Railway to the Bardon Mill Station, and called upon Mr. John Thompson of Crow Hall Mill, who went with me to Muckle Moss, and shewed me *Carex irrigua*, *curta*, *pauciflora*; there, and on the way, *Hieracium lanceolatum* (in Winch's station for his *H. sabaudum* β), *H. molle*, etc. We also went up the glen of the Allan near Ridley Hall, and saw *Hieracium prenanthoïdes* and *Festuca Calamaria*. Returned by the rail from the Ridley Hall private station.

July 16. Went to Berwick, and took up my quarters with Dr. Johnston.

July 20. Went to Edinburgh.

July 21. Took lodgings at 93, Princes Street. Dined with J. Goodsir.

July 23. Went with Graham's class to Ravelrig and the Pentlands by Hobbie's How. Saw *Linnaea* in a plantation adjoining the east side of Ravelrig bog, but found no other plants of interest.

July 27. Walked to Crammond Bridge to get *Scrophularia Ehrharti*, and found it in plenty in a boggy piece of ground by the mill stream; found also *Hieracium sylvaticum*, *Senecio saracenicus*.

July 29. Went to Glasgow to Balfour; went to the new Botanical Garden, and met at dinner at his lodgings W. Gourlie, Adamson, Lyon, and Gardner.

July 30. Attended Balfour's concluding lecture and distribution of prizes. Returned to Edinburgh.

Aug. 1. Commencement of the meeting of the Highland Society.

Aug. 2. Went to the Show Yard in the park adjoining Bruntsfield Links, and had much difficulty in getting in, from the crowd. A fine show of cattle, but better of men. Dined in the pavilion erected for the purpose, on the esplanade in front of the castle (about 2000 present); it went off very well.

Aug. 5. Left by steamer from Granton at 7 a.m. for Dundee, and on arriving there went on by railway to Arbroath and Forfar, passing Rescobie Loch and the hills of Drumlin (?), both celebrated botanical stations of the late G. Don. Walked from Forfar to Clova in five hours, arriving at 10.30 p.m. at the small inn.

Aug. 6. Went up Glen Dole, and gathered *Sonchus alpinus* on rocks in a ravine containing a small waterfall, between the divisions of the fall, on the left-hand side of the glen near the Head; and *Astragalus alpinus* on a very steep rock a little further up the glen. Then crossed the summit to the head of Glen Phu, and found *Carex aquatilis* in plenty. On rocks near the lower end of Glen Phu on the left-hand side (going down) grows *Oxytropis*.

Aug. 7. *Sunday.* Minister gone to Glen Proson. Went to Loch Brandy, and gathered *Cerastium alpinum*.

Aug. 8. To the summit of the hills opposite the inn, called Craig-Inks, and found *Sibbaldia*, *Azalea*, etc., in plenty; went along the tops as far as the head of Glen Phu, and then descended by a most difficult cleft in the cliffs.

Aug. 9. Left Clova for Braemar. Followed the White Water to its source, gathering *Phleum alpinum*, *Alopecurus alpinus*, *Juncus castaneus*, *Cornus suecica*, etc.; then due north-east to the head of Glen Callater, where we found *Carex rupestris*, and down that glen to Braemar, where there is a nice inn.

Aug. 10. On the way to Ben Aven we ascended a lower hill, called Little Craigindal, upon which we found plenty of *Astragalus alpinus*, *Carex rupestris*, etc., and then crossed the next glen, and ascended Ben Aven, near the summit of which grows *Luzula arcuata*. Here we were overtaken by a very heavy thunderstorm, and returned through it over Great Craigindal to the inn.

Aug. 11. Went up the glen to the Linn of Dee, and returned by Mar Lodge.

Aug. 12. Went by coach to Aberdeen through a most beautiful country, with the intention of going to Orkney from that port. Various causes however made us put it off. Marischal College is being rebuilt in good taste, but in a very bad situation. The old church is being well restored.

Aug. 13. Breakfasted with Dr. Fleming at Old Aberdeen, and walked with him to the Links to gather *Carex incurva*, and then along the coast south of the Dee, as far as the wild but low hills that terminate the Grampians.

Aug. 14. *Sunday.* Breakfast with Dr. Fleming. Went twice to the cathedral, which is the nave of a fine Early English (?) church. It has a simple but beautiful west front, of two low pyramidal towers, a semi-circular doorway, including two pointed arches, and over it a series of seven equal lancets. Dined with Professor Gregory, and took tea with the Principal, Jack. The old college (King's) is a fine building, particularly the chapel. A neat building has just been added as a museum.

Aug. 15. Went by coach to Inverness, and then on to Dingwall.

Aug. 16. To the summit of Ben Wyvis, from which we had a most beautiful view, extending as far as Skye and Sutherland.

Aug. 17. Again to Ben Wyvis, and examined the cliffs over the valley, at the eastern end, but found nothing of interest except *Arbutus alpinus*. Gathered an astonishing quantity of the fruit of *Rubus Chamaemorus*. The same evening went to Inverness, and arriving there at 2 a.m. the next day, did not go to bed, but sat up till the boat for the Caledonian Canal started, at 5, by which we went to Fort William. Saw the Fall of Foyers by the way, and Fort Augustus. Boat was the "Rob Roy."

Aug. 19. To Oban. Walked to Dunstaffnage Castle and Dunolly Castle.

Aug. 20. Went to-day by the steamer "Brenda" to Staffa and Iona. Started at 6 a.m. and went by the way of the Sound of Kerrera, to the south of Mull, landing passengers at Loch Buy and Karsaig to Iona, and had a splendid view of the coast of Mull. There was rather a heavy sea, which affected some of the party considerably, and we had some difficulty in landing at Iona. The ruins of the monastic church and the cathedral far surpassed my expectation, and are well worthy of a careful examination; we had only an hour allowed. At Staffa we landed on the north end of the island, so as to avoid the swell, and walked to the cave, which we entered. It is far finer than I expected. Returned by the Sound of Mull to Oban at 8 p.m. The party consisted of about forty persons, and we had on the whole a fine day.

Aug. 21. *Sunday.* As there was no service in English in the morning, we walked as far as Kilmore, and returned by Loch Nell in time for the afternoon service. In the evening we went along the coast to the south for about four miles.

Aug. 22. By coach to Inverary.

Aug. 23. By coach to Arroquhar; much disappointed with Glen Croe, in which there is a profusion of *Carum verticillatum.* On the hill-side below Arroquhar we found a *Hieracium* without the radiant florets. By steamer down Loch Long to Dunoon and Greenock, thence by rail to Glasgow.

Aug. 24—26. At Glasgow.

Aug. 27. To Edinburgh, where I remained during the Queen's visit.

Sept. 7. Went to Glasgow and Ardrossan by railway, intending to have reached Arran that night, but found that the steam-boat did not go.

Sept. 8. To Arran. Landed at Brodick, and walked round the point between that bay and Lamlash, returning by the road. Returned to Ardrossan, and finding that they had chosen to fill my room at the inn, went on to Ayr by the railway.

Sept. 9. By coach to Dumfries. The road is wild and uninteresting, through a sheep farming district of highish hills.

Sept. 10. Walked down the bank of the Nith to the Solway, then along it to Locker Point; returned to Carlaverock Castle, and back by the road through the village of Carlaverock.

Sept. 11. *Sunday.* Went to Beattock to breakfast, and then spent the rest of the day at Kirkpatrick Juxta, with the Rev. W. Little, the minister.

Sept. 12, 13. Remained at Kirkpatrick Manse.

Sept. 14. To Jardine Hall, where I continued until Sept. 30th, collecting mostly Brambles, which appear to be very plentiful there. I intended to have left Scotland sooner, but could not get a place until that morning at 5 o'clock, and reached Lancaster at 4.30 p.m., leaving by rail at 5.30 p.m.; arrived in London at 5 a.m. on the next day.

Oct. 1. Reached Cambridge this evening.

1843. *Feb.* Nothing of interest having occurred to enter during this winter, in which I did not leave Cambridge, I now commence again. Fully occupied with my "Manual."

Feb. 11. John Ball came to Cambridge.

Feb. 13. Dined at Trinity to meet him at Sedgwick's.

Feb. 15. Dined with Cartmell of Christ's to meet Ball. He is working at my *Hieracia.*

March 7. Went to London, and dined with the Linnean Club.

March 8. Arranged with R. Taylor to commence the printing of my "Manual of British Botany."

March 15. Ray Meeting at my rooms.

May 1. Finished the manuscript of my "Manual," which has kept me most fully employed all the winter.

May 15. Corrected the last proof of my "Manual."

May 24. Went to London to the Anniversary of the Linnean Society, and dined with the members. My "Manual" published. Elected Treasurer of the Cambridge Antiquarian Society, in the room of the Rev. J. J. Smith.

May 27. Went to Ely to dine with the Dean, as President, and the Council of the Philosophical Society; remained at the Deanery till Monday, and then returned home.

June 14. The first fine day that there has been for many weeks.

June 17. Left Cambridge for the summer. Went to Mr. Forster's at Woodford, and remained there till Tuesday, June 20th.

June 21. Went to Thames Ditton, at Mr. H. C. Watson's; and the next day Mr. Borrer joined us at the Esher Station, and we went to Woking, between which place and Guildford we gathered at White Moor Pond, the *Eriophorum gracile* (true), *Alopecurus fulvus*, and several other plants. Then returned to Weybridge, and unsuccessfully looked for *Linaria simplex.* Saw by the river at Weybridge *Impatiens fulva.* Returned to London.

June 23. Dined at Mr. Forster's to meet the Bishop of Norwich (Dr. Stanley), President of the Linnean Society, etc.

June 24. To Shrewsbury to visit W. A. Leighton.

June 26. Walked to the station of *Salix Meyeriana*, and again found the trees from which Leighton gathered it before, at about five-and-a-quarter miles from Shrewsbury, on the road to Pontesford.

June 27. Dined with the Rev. James Colley.

June 28. To Almond Park, and saw *Rubus fissus*.

July 6. Left Shrewsbury, by way of Wolverhampton, to Manchester.

July 7. Took up my quarters at my cousin Gisborne Babington's.

July 8. Met Dr. Vaughan and Dr. Wardlaw.

July 9. Went to Stand in the evening to hear Dr. Vaughan.

July 11. Went to Dickson's Fold,* on the Bolton railway, and saw the fossil trees.

July 12. To Glossop, by Sheffield rail, to see viaduct and timber bridge.

July 13. To Duckinfield Station of the above, then by boat to Marple. Walked by Werneth, Gee Cross, and Hyde to Duckinfield and Ashton, and back by railway. A most beautiful hilly country.

July 14. To Warrington to call upon Mr. W. Wilson, but did not meet with him. Walked along the river bank downwards from the railway, and gathered *Allium Scorodoprasum* in a grass field liable to be flooded.

July 16. *Sunday.* At church at Chapel-en-le-Frith, and heard John Gisborne. G. Babington and I then walked to the summit of a lofty hill near Chapel.

July 17. Returned to Manchester by walking along the canal to Marple, and then by boat and railway.

July 18. Left Manchester by railway to Hebden Bridge. Walked over the hills and valleys to the west, and was very greatly gratified by the beauty of the country, but found no plants of interest.

July 19. Spent the morning with S. Gibson, looking over his specimens. He then took me to the station for *Carex Gibsoni*, but we could not find any flowering stems; we saw several other *Carices*, and some *Rubi*.

July 20. Went over the moor to Keighley, and then by coach to Skipton and Settle.

July 21. Breakfasted with J. Tatham. In the evening he took me to the station for *Lastrea rigida*, of which we found plenty. Also went to Scalebar Force, a pretty fall.

July 23. After church walked up the Clapham Road to the top of the hill, then over the Fell, and down to Stainforth. In a wood

* Query Diggle's Fold.

just below the bridge, on the north side, and near Stainforth Force, found *Hieracium prenanthoïdes*, *Crepis succisaefolia*, and *Allium oleraceum*.

July 24. Tom Tatham (a lad) walked with me to Hesselden Ghyll, where we found *Ribes alpinum*, *R. petraeum*, *Saxifraga umbrosa* (particularly in a hollow a short distance up a lateral stream which crosses the road at a cottage; the plant seems not to be an escape, and does not occur up the stream, even as far as the cottage), *Myrrhis odorata*, *Actaea spicata*, and several others. On our way we visited a fine waterfall, called Catterick Force, formed by a stream joining the Ribble at Stainforth. We passed close under Pen-y-gent.

July 25. T. Tatham guided me over the hills to Malham Cove and Gordale Scar. Passed numerous calamine pits by the way, and saw Malham Tarn at a distance. Found *Thlaspi alpestre* near the calamine pits, and *Polemonium caeruleum* at the cove. Gordale Scar is a fine, deep, rocky hollow. In the evening I met and was introduced to Mr. Nuttall, the celebrated American botanist, now come to live in England.

July 26. Went to the ebbing-and-flowing well. Left Settle, and reached Kendal by way of Kirkby Lonsdale.

July 27. Left Kendal, going by Ambleside to Keswick. The day was fine, and the ride most interesting. Spent the evening with Mr. Carl Voigt, from Vienna. Walked round the lake, seeing Lodore Fall by the way.

July 28. Went up Borrowdale, then over Gatesgarth Pass, without finding *Alchemilla conjuncta*, but plenty of *A. alpina*; to Buttermere, where it commenced raining. Returned in a car by way of Newlands.

July 29. A very wet day. Went to St. John's Vale. Found by the road-side *Thalictrum majus*.

July 30. *Sunday.* The new church built by Salvin, at the expense of Mr. Marshall, is beautiful Early English.

July 31. To Wallow Crag. Got only *Pyrola secunda*. Saw Mr. C. H. Wright, the botanist, here; he gave me several plants.

Aug. 1. Again wet. Went with Wright, and got *Epipactis media* in a wood by Kendal road; also to Portinscale, to see the station of an unknown Boragineous plant.

Aug. 2. Left Keswick by coach, by way of Cockermouth and Wigton to Carlisle, and rail to Newcastle.

Aug. 3. To Durham by the Brandling railway. Took up my quarters at Mr. Gisborne's house. Found Walter Gisborne there; we walked to Finchale Abbey, beautifully situated on the banks of the Wear. The ruins shew curiously the alteration of casing Norman pillars, and converting the style into Early English.

Aug. 4. Saw the museum; dined with the Dean, Dr. Waddington, and met the Bishop.

Aug. 5. Walked to a paper-mill, and inspected it. Dined with the Bishop of Chester.

Aug. 7. Went to Barnard Castle.

Aug. 8. Walked up the Yorkshire side of the valley to the High Force Inn, and then to Cronkley Scar.

Aug. 9. Walked to Falcon Clints, and saw the *Woodsia.* On Widdy Bank got *Hieracium Lapeyrousii*; and in the evening at Wynch Bridge. Gathered *Poa Parnellii* at the High Force.

Aug. 10. Walked back to Barnard Castle, and visited the ruins of the castle.

Aug. 11. To York. Called upon Mr. Baines, also Mr. James Backhouse, who walked with me into the country; dined with him.

Aug. 12. To Liverpool by railway, and the steam vessel to Dublin.

Aug. 14. Went to Glasnevin Garden, and dined with R. Ball, and went to Dalkey Island.

Aug. 15. By the "Vanguard" steamship to Cork in thirteen hours, arriving in the morning.

Aug. 16. Committee of the British Association met. Took lodgings at Mrs. Bagley's, 79, Grand Parade, with Dr. Lankester and Edward Forbes.

Aug. 17. Sections met. "Red Lions" dine at "Victoria Arms."

Aug. 23. Breakfasted with Mr. Kelcher, one of the local secretaries. Last day of the meeting.

Aug. 24. Breakfasted again with Mr. Kelcher; and went in a steamer to see the cove. We went up both the branches of it, and had a scrambling dinner in one of the store-houses on Haulbowline Island.

Aug. 25. Winterbottom and I went by coach to Clonakilty, by way of Bandon, which is a nice clean town.

Aug. 26. Walked to Dunmore, to the south of the entrance of the bay, in search of *Erica Mackaiana*, but could not find it. Found *Arctium majus.*

Aug. 27. Obliged to go on to Bantry, by the way of Ross, Carbery, and Skibbereen. The country very beautiful, and well cultivated, and more like England. Bantry is a fine spot.

Aug. 29. To Glengariff by the car. Then by private car to Castleton Berehaven. On the way we ascended Hungry Hill, by the side of the waterfall of Adrigole, as far as the town, then along the side of the mountain to the other tarn. The only interesting

plant was *Saxifraga hirsuta*, on the ascent. Did not see *Dabeocia*, said to have been found here by Mr. Nash. Called upon Dr. P. A. Armstrong.

Aug. 30. Spent the day with Mr. Armstrong; he shewed to us the *Spiranthes gemmipara* growing in a rather wet field near the shore, amongst *Rushes*, just to the south-west of the town; we saw about twelve specimens nearly out of flower.

Aug. 31. Walked back to Glengariff.

Sept. 1. Spent the day exploring Lord Bantry's demesne, which is very beautiful.

Sept. 2. To Kenmare (by the new road by the tunnel), and Killarney by the public car.

Sept. 3. *Sunday.* After church visited Lord Kenmare's western demesne, and also Ross Island.

Sept. 4. Examined Turk mountain.

Sept. 5. Dr. Taylor came to meet us at Crom-a-glaun mountain; we found *Trichomanes* by a little stream at a short distance beyond the pierced rock, and about half-a-mile from the road.

Sept. 6. To the same district; ascended through some beautiful woods towards Combnie, and then descended the river to the road again.

Sept. 7. Spent the day in the examination of the river and waterfall of Turk. Found the *Trichomanes* some distance above the fall, a little below a bridge; also on the old station below the fall, and several other spots high up the precipice, on the north side of the fall.

Sept. 8. Went through Mr. Herbert's demesne as far as the bridge between the lakes. Went to Grena to call upon Mr. J. O'Connell. Spent much time at Killarney in the study of *Rubi*.

Sept. 9. Went to Waterville by car, by the road following the north side of the Kenmare river from Sneem, and going close by Derrynane.

Sept. 12. Went to Church Island in Curraan Lake, but found the ruins in a very decayed state. Landed on the south side of the lake at a short distance beyond a curious promontory, and found *Trichomanes*. Crossed the mountain, and examined a waterfall, or rather rapid, at the head of the next valley.

Sept. 15. Went by the public car to Killarney, by the way of Cahir Civeen and Killorglin. Parted from Winterbottom at Cahir Civeen.

Sept. 16. To Cork.

Sept. 18. To Waterford, by way of Youghal, Lismore, Cappoquin, and Dungannon.

Sept. 19. To Hobbs' Point (Milford Haven) by steamer. Only two passengers. At sea twelve hours.

Sept. 20. To Tenby.

Sept. 21. Dined with R. W. Falconer, M.D.

Sept. 22. Dined again with R. W. Falconer, to meet Wood of Jesus College, and J. E. Fitzgerald.

Sept. 23. To Carmarthen.

Sept. 25. To Monmouth.

Sept. 26. To Bath, by Chepstow and Bristol. Gathered a new *Euphorbia*, allied to *stricta*, between Tintern and Wyndcliff.

Sept. 27—30. Assisting my aunt, Mrs. Bedford, in removing from 8, Hanover Street to 7, East Beaufort Buildings. Got in to the latter on the 29th.

Oct. 2. Dined with Dr. Whitter, and went to a scientific party at Mr. Lawson's afterwards.

Oct. 9. Called upon H. C. Rothery, whose family were staying at 1, Bathwick Terrace.

Oct. 10. Spent the day in walking about with Rothery, and dined with that family.

Oct. 11. Dined with Mr. B. Fowler, 5, Beacon Hill.

Oct. 16. Went to London, and stopped at H. C. Rothery's, 10, Stratford Place.

Oct. 19. Came to Cambridge.

Oct. 25. The Queen came to visit the University; we all collected in the great court of Trinity, and after forming four deep round three sides of the court, went in procession to present the address.

Oct. 26. Degree conferred upon Prince Albert at the Senate House; afterwards they visited St. John's, coming in at the middle gate of the new court. They left Cambridge.

Nov. 6. Again elected into the Council of the Philosophical Society.

Nov. 20. Anniversary Dinner of Philosophical Society.

Nov. 29. The Ray Club dined with me at 6.30 p.m.: viz., J. H. Pollexfen, W. T. Kingsley, D. T. Ansted, Professor Clark, J. J. Smith, Joseph Power, W. H. Stokes, J. S. Henslow; also W. H. Miller and G. G. Stokes.

Dec. 5. Went to London.

Dec. 6. Heard a lecture by Mr. Brande at the Royal Institution, addressed to the Royal Agricultural Society.

Dec. 7. Went to the Smithfield Cattle Show, and to another lecture by Brande.

Dec. 8. Returned to Cambridge.

Dec. 27. Edward Forbes came to see Cambridge, and dined with us on St. John's Day.

Dec. 28. Forbes and I dined at Jesus, and he returned to town the next day.

Dec. 29. Dined with Professor W. W. Fisher.

1844. *Feb.* 7. Placed on a syndicate to consult concerning the removal of the Botanic Garden.

Feb. 10. First meeting of Botanic Garden Syndicate.

Feb. 26. Second meeting of Botanic Garden Syndicate. Dined with Whewell, Master of Trinity, as President of Cambridge Philosophical Society.

March 19. To London to meet Balfour. Dined with the Linnean Club.

March 21. Balfour and I went to Kew, and spent some hours with Sir W. J. Hooker, at his house, and in the Botanical Gardens.

March 21. Dined with R. Taylor.

March 22. Returned to Cambridge.

March 27. Balfour came to Cambridge, and we dined with Ansted.

March 28. We dined in Hall at Downing with Dr. Fisher.

March 29. Balfour left.

April 2. I went to London.

April 3. At Kew with Hooker, examining *Spiranthes gemmifera.*

April 4. Went to R. M. Lingwood at Lyston, by the way of the Cheltenham railway to Cirencester, then by Gloucester and Ross. Whilst with him we visited Kilpeck Church, which is a highly interesting Norman structure; inspected the restorations in the Cathedral of Hereford; went to the highly interesting land-slip at Dormington, etc. On one day we went to Monmouth Cap, and whilst Lingwood fished, I called upon Mr. Bentham at Pontrilas.

April 22. Left Lyston, and returned to London.

April 23. Returned to Cambridge.

May 4. Went to Ely to the Deanery to meet Sedgwick, who had a field lecture on this day.

May 6. Returned to Cambridge.

May 16. Henslow's Gamlingay party.

May 23. To London.

May 24. Anniversary of the Linnean Society. Dined with it, and met Mr. Edgeworth, the botanist.

May 25. Returned to Cambridge.

May 31. Power of Clare, and Power of Pembroke, his brother, Dr. White, and I went to Bottisham Fen, which was almost dried up, and but few plants to be found.

June 5. Went to the "Gogs" with J. Power of Pembroke. Yesterday the wind left the north and east, in which quarters it had continued for more than seven weeks.

June 14. To London.

June 15. Went with a Geological and Botanical party, conducted by Ansted and E. Forbes, to Redhill, and then to Folkestone and Hythe.

June 16. Visited Lyddon Spout, and gathered *Orobanche caryophyllacea*, *Silene nutans*, etc.; on the bank just opposite to eastern-most house of Sandgate, we got *Fedia carinata*.

June 17. Found *Carex divisa* on the shingles, and on the way to Folkestone *Bromus commutatus*, *Hippophaë*, etc. Near Hythe *Barkhausia taraxacifolia* and *Centaurea Calcitrapa* are abundant.

June 18. Mr. Mackeson shewed me *Ophrys arachnites* on the chalk hill at about five miles from Hythe. Went to Staplehurst by railway, and then by coach to Hastings.

June 19. Called upon Mr. Ranking (a surgeon), who sent his nephew to shew the place where Mr. Hailstone found *Carex brizoïdes*, but it was so grown up with bushes that we could not find anything. It is a bog by the side of the stream that enters the sea through what was a salt marsh to the west of the town. Back to railway, and to Tunbridge Wells.

June 20. To Eridge High Rocks, where we saw *Hymenophyllum tunbridgense*. To London.

June 22. Forbes, Lankester, and I went to Chelsea Gardens.

June 23. To Mr. Forster's at Woodford, and remained until the next morning.

June 24. To Bath, 7, East Beaufort Buildings.

July 9. Went to Chepstow, and to the "Rose and Crown" Inn at Tintern to meet Lingwood. Found that the *Euphorbia stricta* of Koch is plentiful from above Tintern down the river for several miles.

July 10. Crossed the river at the abbey, and went through the woods to the Devil's Pulpit, from whence there is a very fine view. Then across Tyddenham Chase, along the Coalford road, and through the woods, in which there is a remarkable suberect *Rubus*, to Brockwere, and home. In the woods *Campanula latifolia* is not unfrequent.

July 11. Walked to Trellech, where there is a fine Early

English Church, a spring strongly charged with iron, and three large monumental stones. Thence to Monmouth. Between Tintern and Trellech there is a large peat bog where turf is cut for fuel. From Monmouth by car to Lyston.

July 12. To Aconbury Chapel and Hill.

July 15. To Bath.

July 26. To Warrington.

July 27. Spent the morning with W. Wilson at Orford Mount. Lingwood joined me, and by railway to Liverpool, and by "Princess" steamer to Glasgow.

July 29. Dined with Balfour.

July 30. We went to the Inverarnon Inn by steamer on Loch Lomond. Balfour and three students joined us.

July 31. Walked to Killin and the Lochy Inn, which was head quarters. Through Glen Falloch and Glen Dochart. Fine country, and good day.

Aug. 1. Went up the Glen of Lochy, and ascended Mael Ghyrdy, where we got *Carex pulla* (good), *Juncus castaneus*, *J. biglumis*, and many other plants on the east side of the mountain in a wet hollow, by which we descended to a road opening at the bridge in the Glen Lochy.

Aug. 2. By car to Ben Lawers Inn, then ascended the mountain over a ridge next to the inn, descended into the hollow, and found *Phleum alpinum*, and an *Eriophorum* with a round stem which may be Don's *E. capitatum*. View very fine from the top. Near the crater found *Saxifraga cernua*, and *Myosotis suaveolens*, and *Draba rupestris*. On several parts of the hill found *Arenaria rubella*, *Spergula saginoïdes*, *Cherleria sedoïdes*, *Sibbaldia*, etc. Descended by Ben Lassie, and found on the cliffs passed in reaching it, *Gentiana nivalis*, *Myosotis* in plenty, and Balfour says, *Saxifraga cernua*. By mistake did not visit Craig-na-Gat which is on the opposite side of the lake from Ben Lawers, near some rock upon the south-east arm of the hill where *Saxifraga rivularis* grows.

Aug. 3. Ascended Craig Challaich, and Ben-y-Cruchbein. On the latter, Balfour got lots of *Poa Balfourii*, and I saw a few upon the former. Also *Arenaria rubella*, etc. Lingwood left us to go to the north with Mr. Boddenham.

Aug. 4. Visited the MacNab burying ground, and saw the supposed natural graft on a Scotch Fir, but considered it to be a mistake, and caused by the fracture of a branch near its origin, which shot out an upright shoot from near that spot, and then closed the wound caused by the fracture. Also visited Finlarig Castle, and the burying place of the Breadalbane family.

Aug. 5. By car to King's House, and then walked by Loch Lubnaig, in which we saw, but could not get even by wading, *Nuphar pumila*, also *Subularia*, *Isoëtes*, and *Litorella*. Through the pass of Lennie, to within one-and-a-half miles of Callendar, where we saw *Rumex alpinus* and *Spiraea salicifolia*, by Loch Vennachar and Loch Achray, to Stewart's Inn at the Trossachs.

Aug. 6. Through the Trossachs, and by Loch Katrine to Inversnaid, and then to Inverarnon Inn (where we found *Hieracium denticulatum*, *Malaxis paludosa*, and *Lycopodium inundatum*) to Balloch, and by coach to Glasgow, through a terrific storm of wind and rain. Stayed with Balfour.

Aug. 7, 8. Cattle Show of Highland Society on the green. Was a judge of seeds and roots, and also of flowers at a horticultural show. Got tickets free for both the dinners of the Highland Society as a judge.

Aug. 10. Went to Campbelton by steamer, with a party of seven.

Aug. 12. By the coast to Southend, where four of us remained at a nice little inn, three going on to the Mull Lighthouse. Visited the fort of Dunlaverick consisting of a high rock projecting into the sea, the last hold of the MacDonalds in the country.

Aug. 13. Crossed the interior through a heathery district to the west coast, which we followed to Mackerihanish Bay, and then back to Campbelton.

Aug. 14. Up the west coast to Tayinloan. Remarked great quantities of *Aria aquatica* growing prostrate upon the sands of Lenanmore. Ruined church of Killean, a curious structure with two lancets with round heads at the east end, and a door with narrowing sides and a flat single capstone.

Aug. 15. To Porthullian at the mouth of West Tarbert Loch; then by the steamer to Port Askaig in Islay, from whence we were taken by a carriage sent for us to the house of G. T. Chiene, of Ealabus, factor to Campbell of Islay. Parnell, Balfour, and I were most hospitably received at his house during our stay in Islay. Ealabus is near Islay House. There is a good inn at Bridgend.

Aug. 16. Drove to Kilchoman, and walked to Loch Guirm, and the rocks by the coast, which are of the most curious kind.

Aug. 18. Saw some land recently brought into cultivation by Mr. Chiene from peat-moss, producing a fine crop of wheat. Also a road of about two miles in length, made by the assembly of nearly 700 men in one day.

Aug. 19. Drove to Portnahaven, went on to Kilberan, and examined a good farm there.

Aug. 20. To Kilnane, examining the west side of Loch Gruinart. The ruins of Kilnane Church interesting.

Aug. 21. Examined the sands and marshes at the head of Lochindal.

Aug. 22. Visited the limestone districts of the interior, and went through the wood upon both sides of the river along the Islay House drives.

Aug. 24. Returned to Glasgow by Tarbert and the Kyles of Bute.

Aug. 29. To Edinburgh.

Aug. 30. Took lodgings at 19, Dundas Street (Collins), the same person as I was formerly with under the name of Fairbairn.

Sept. 3. Commenced arranging the European plants in the Botanical Society's collection.

Sept. 7. Brand and I went by Queensferry to Dunfermline to visit Dr. Dewar, and went with him to Glen Devon. The river passes through a very narrow and deep gully at the "rumbling bridge." The glen is beautiful, and rich in *Hieracia*. Found *Turritis glabra* on rocks on the left of the river, a little above the road to Dunning, in a decidedly wild locality; saw also plenty of *Equisetum umbrosum* on the right hand side, a little below a fine waterfall near a bridge close to the road.

Sept. 8. Saw the fine old nave of the Monastic Church, built in the time of Malcolm Canmore, Norman style; in bad condition, and a church in bad taste attached to it with extremely flattened arches forming a cross. Saw also the Refectory, with a very fine west window in good preservation, but only one side wall standing; also the stupendous ruins of the Palace; and the old "dun" from which the town derives its name, a very strong place on a lofty promontory of rock.

Sept. 24. Finished my work for the Botanical Society.

Sept. 25. To Newcastle, by way of Galashiels and Melrose, and over the Cheviot Hills.

Sept. 26. To York before breakfast. British Association meeting. Lodgings with Lankester, E. Forbes, and Percy at 2, Penby Grove Street. "Red Lions" at Jackson's Hotel, Petergate.

Sept. 27. Lord Fitzwilliam gave a dinner to nearly 200 of the members. Most excellent.

Oct. 5. To Cambridge.

Oct. . Appointed upon the Provisional Committee of the Cambridge and Lincoln railway.

Nov. 6. Appointed Secretary of the Cambridge Philosophical Society.

1845. *Jan.* 10. To London. Spent the evening at Dr. Day's with Forbes.

Jan. 11. By railway to Gosport, and so to Ryde, where I visited Dr. T. Bell Salter, with a view to the examination of *Rubi*, having taken a large portion of my specimens with me.

Jan. 13. Dr. W. A. Bromfield visited a very interesting garden belonging to Sir R. Simeon's house near Ryde, where a collection of the wild *Rubi* is forming. Afterwards walked some distance along the Brading road, and returned to dine with Bromfield.

Jan. 15. Left Ryde, and went by coach from Portsmouth to Brighton.

Jan. 16. At Brighton with W. Borrer, junr. Dined with him, and in the evening went to Henfield, where remained, visiting Mr. Borrer until the 24th. To London.

Jan. 26. To Cambridge.

Feb. 11. On the night of this day, Tuesday, the temperature fell as low as 10° Fahr.

Aug. 1. Left Cambridge at 4 p.m. for London by the railway, which opened the Wednesday before.

Aug. 2. To Liverpool by the railway, and then by the steamer to Glasgow, where we did not arrive until 8 p.m. on Aug. 3rd, after a very slow and bad passage.

Aug. 4. Spent at Glasgow, and dined with Balfour.

Aug. 5. Started with Balfour, F. J. Cockburn, and Risk, by steamer to Inverarnon, and had a peculiarly fine day on Loch Lomond. Met Legh of King's on a tour to the Highlands. In the afternoon we went up the hill opposite the inn, from which we had a peculiarly beautiful view, but found nothing particular. We returned by a wooded valley into Glen Falloch.

Aug. 6. Went along the lake side and turned up a glen to Loch Sloy, and ascended to the top of Ben Voirlich in a very heavy rain. We found on the top *Carex saxatilis* and *Subularia aquatica*, and on the descent by a ravine descending towards Loch Lomond we got plenty of *Poa Balfourii*.

Aug. 7. Walked by Crianlarich and Tayinloan to Inverarnon in the hope of being taken up by the coach, but when it arrived it was quite full. An extra coach, however, being on its way through the country, we got a lift by King's House and Glencoe to Ballachuillish, where the inn was quite full, and we had to sleep upon the floor. On our way we passed close to a very fine mountain near Inverarnon; after that we passed the side of the moor of Rannoch and saw Schehallion in the distance. From King's House descended a wonderful road amongst the most beautiful mountains into Glencoe.

Aug. 8. This morning we got a lift to Fort William, where we were peculiarly fortunate in getting beds, as all the inns were overfull every night. At 12 o'clock we went out (that is, Balfour, Cockburn, and I), walked up the right hand side of the water of Nevis for many miles, crossing a very steep and rough mountain road to the upper part of the glen, to a fine waterfall, near which the vegetation was particularly vigorous. We returned down the other side of the glen, after examining a very grand and singular ravine through which the river breaks—filled with large rocks one upon another. Here we had much difficulty, and had to return by a different track. We reached Fort William at 8 p.m. On the top of the high ridge which we passed in going up the glen we saw the scratches of glacial action very well marked on the rounded rocks, and crossing the natural lines of structure in the rocks.

Aug. 9. Went along the Inverness road as far as the Lochy Ferry and then turned over the flat land and ascended into the corrie of Ben Nevis. Examined the rocks and found many plants, amongst others *Poa laxa*. In the latter part of the day we ascended to the masses of snow which lie in a hollow far up, under the highest part of the mountain. It can scarcely be called snow, it is rather a mass of spherical crystals of ice, each of about the size of mustard-seed. It is broken with difficulty. Near to the snow we found *Stellaria cerastoïdes*, *Saxifraga rivularis*, and a few other plants. We then returned, having started at 9 a.m., and reached home again at 6.30 p.m. It was a stormy day, with frequent rains, and the higher parts of the mountain constantly covered with clouds. I was very much struck with the grand character of the cliffs and rocks. They are the finest that I have seen.

Aug. 10. *Sunday.* Attended the Episcopalian Church.

Aug. 11. Balfour went again upon Ben Nevis, but as it was raining hard on the mountain, Risk and I walked eight-and-a-half miles up the shores of Loch Eil. The view of the mountains towards its head is peculiarly fine. We did not get many plants, only picking a few *Rubi*.

Aug. 12. Balfour having heard that Dr. Graham was dead, and that the botanical chair at Edinburgh was thus vacant, we returned towards Glasgow. It was a very fine day, and we saw Glencoe in perfection. Indeed, nothing could be more favourable than the day for the whole journey to Inverarnon. At that place Risk and I remained—Balfour going to Glasgow, and Cockburn to Killin—and we gathered a few plants.

Aug. 14. To Edinburgh. Balfour then looking after the Botanical Professorship.

Aug. 15. John Goodsir kindly took me into his house at 21, Lothian Street, and I spent most of my time in the rooms of the Botanical Society.

Aug. 19. Went to dinner at Bonally, the country house of Lord Cockburn (a judge), the father of our companion in the Highlands.

Aug. 22. Dined with Dr. and Mrs. G. Patterson.

Aug. 23. Walked with Evans, the Curator of the Botanical Society's Museum, to the Braid Hills and Morton Hall. In the woods at the latter saw *Hieracium sabaudum*. On our return we visited Craig Millar Castle.

Aug. 28. Walked to Cramond, and examined the wood upwards on the western side of the river. Saw plenty of *Hieracium sabaudum* and *Scrophularia Ehrharti*, also by the water a *Rubus* with very long prostrate, sulcate, and not rooting shoots. Returned over the old bridge and along the old road, much nearer to the shore than the new one, and much prettier.

Aug. 30. Went by the railway to Linlithgow. The church plain but interesting. A curious carved tablet found under the pavement some years since, and kept carefully in a case. The palace highly interesting, and the walls in a very perfect state. Walked by the road and through a rather woody country to Winchburgh, near to which there is the ruin of a fine feudal tower. Returned from Winchburgh by railway.

Sept. 1. Went to Berwick by coach to spend a few days with Dr. Johnston.

Sept. 2. Drove to Wooler in the evening.

Sept. 3. Ascended the College river as far as the foot of Cheviot to a cottage named Dunsdale, where we met the members of the Berwickshire Naturalists' Club. We then went up a ravine in the mountain, in which I found a *Poa*, probably *Balfourii*, in plenty. On the top of the hill we got *Cornus suecica* and many other Alpine plants. Returned in the evening by Ford to Berwick.

Sept. 5. Left Berwick by coach for Newcastle at 3 p.m. Went on by the railway to London, where I arrived the next day (Sept. 6th) at 1 p.m., and got to Cambridge at 5 p.m. the same day.

Sept. 8. Left Cambridge at 4 p.m.

Sept. 9. Went to Winchester by 7 a.m. train. Lodgings with J. J. Smith and J. Anthony at Butts', 49, High Street, during the week of the meeting of the Archaeological Association.

Sept. 10. Party at the deanery in the evening. Everyone there.

Sept. 11. To Romsey to see the beautiful Norman church.

Sept. 12. To Porchester to see the Roman and Norman castle and Norman church.

Sept. 14. Walked to St. Cross with Sharp and others.

Sept. 15. After the General Meeting of the Archaeological Institute went to Gosport and Ryde to Dr. T. B. Salter's.

Sept. 16. Dined with Dr. Bromfield.

Sept. 25. To Chichester to Dr. Tyacke's. Drove to Kingley Bottom, where are the finest collection of yew trees that I have ever seen.

Sept. 26. To Henfield to Mr. Borrer's.

Sept. 27. To see *Leersia oryzoïdes* in Henfield Level.

Oct. 1. To Hurst. Called upon Mr. Mitten, also examined the new church with the Rector, the Rev. Cary Borrer.

1846. *June* 15. Left Cambridge, and after spending a few hours in London, went by the 5 p.m. train to Liverpool, where we arrived at shortly after 11 p.m.

June 16. Found that the box containing my books and botanical drying papers, etc., had not come by the rail, so that I was obliged to get such stock to replace my losses as I could. We got clear of the dock at 4.30 p.m., and cleared the river by sunset, making but little way afterwards.

June 17. Nearly becalmed all day, and amused ourselves by fishing. (*Note.*—The name of the ship is the cutter yacht "Antelope," of 93 tons. Master, John Armon, with eight men—mate, Henry Wheeler of Ryde. She belonged to F. D. Astley, and we were in company as his guests, T. Guy Gisborne, T. M. Gisborne, and I). Calm all night, and had to anchor in order to avoid drifting back. Calm all day, anchored in the afternoon, to avoid drifting back. In the evening a smart breeze from north-east, which took us swiftly down the Irish sea, as we had now determined to go south about. We make six and six-and-a-half miles the hour. Fell nearly calm again late at night. Got no fish to-day.

June 19. Nearly calm all day.

June 20. Wind freshened considerably this morning, and drove us on at eight or nine miles an hour. We passed the Cove of Cork in the afternoon, and reached the Old Head of Kinsale in the evening. At about 10 p.m. a large screw steamer passed us at great velocity.

June 21. At midnight Cape Clear was north-west.

June 22. Cleared the land off the end of the Dingle Promontory.

June 24. At 12 p.m. "heavy gale from N.N.E., with a tremendous sea running;" so says the master's log. Weather on the 25th much moderated, as it continued on the following day, on which I quite got over the effects of the sea, which had made me rather uncomfortable for three days. We saw many sea birds, but nearly all of the same species.

June 27. At 7 a.m. we came within sight of the Westmen-Islands and Eyafell Jökul. The former a most curious cluster of rocks and hills; the latter an eminently grand lofty mountain,

quite covered with snow, and hidden with clouds and mist at its base. Beyond this, to the east, other very lofty snowy mountains extended as far as we could see. We spoke a Danish schooner, and obtained from her captain a chart of the coast. She sailed beautifully, and apparently wished to beat the "Antelope"—no go. Our course was close by the outermost of the Westmen-Islands. Thus in five days we again saw land.

June 28. *Sunday.* At 4 a.m. passed close to Cape Reykjanes, which is low, and has a very singular pointed rock near its south-west side, called Karlsklip. We then beat up north at some distance from the coast so as to weather Skagi and the reef projecting from it. Spoke a Norwegian fishing vessel, and obtained some fine cod from her. Then bore up direct for Reykjavík, not being able to obtain a pilot. During the whole of the day the snow mountain Snæfells-Jökul had a grand appearance, at a distance of from forty to fifty miles north-west; about half its height seemed covered with snow. To the east of it a continuous range of lofty (but much lower) hills with and without snow bounded the horizon. Our captain not having ever been to Iceland before, did not like to venture in too near to the coast without a pilot, and as he could not get one, he stood off and on in the bay, until he got a man from another vessel. By that time the wind had died away, and we were only able to creep in. Soon afterwards we were boarded by a pilot, who took us in close alongside of the town at 11.40 p.m. There were two French cutters of war in the harbour, and several small Danish craft.

June 29. After breakfast we landed, and called upon M. Hoppe, the Stiftamtmann, who was very kind. We then took a short walk near the town. Afterwards we took the boat, and went four miles up the water to the salmon fishery, rented from the King of Denmark by M. Tærgessen, where they fished, and took nineteen salmon. I walked over the hills towards the south. The hills were very barren, covered with stones, with very little vegetation, but with here and there some good turf. A great quantity of *Dryas*, *Cerastium latifolium*, *Lychnis alpina*, etc. Then returned after a peculiarly fine day. The town is very little larger than that described by authors, and very full of stock-fish, and having a very fishy smell. A large house (the late house of correction) is being converted into a school. Measles have been very destructive in the island, and are now very prevalent. Numbers of gulls, solan geese, and two fine eagles. Hills much like some of the wilder parts of Scotland, but with some snow still upon them.

June 30. Walked up to the same place as yesterday, by an inland route over some bogs. The master of the fishery turned the water off from the pool in the river into which the fish run in ascending the water, and we obtained an immense number of salmon. I then went to some rocks along the coast on the further

side of the bay near the fishery, and obtained many plants. I then returned to the town, nearly all the way by the sea shore.

July 1. After spending all the morning in arranging my plants, I started at 3 p.m. to walk to the Lava near Hafnar-Fiord; it is nearly seven miles along an uninteresting but rather good road; returning the same way. The Lava is wonderfully rugged and cavernous. Found *Woodsia.* It rained hard all night and until about 9 a.m., then was cloudy all day. All the former days of our stay here were very fine, and mostly clear.

July 2. Spent most of the morning in the examination of a collection of Icelandic birds, most of which were purchased, on the joint account of Astley and Tom Gisborne, of Mr. Müller, an apothecary. Also saw an Iceland falcon alive, and a black fox. In the afternoon I went to examine the district to the west of the town. Found some sea shore plants, and a few shells. At about a mile west of the town there is a fresh pond, in which I found *Hippuris*, *Ranunculus aquatilis*, and a small yellow-flowered *Ranunculus* with three-parted leaves, which I do not know. Late in the evening we went to take tea with M. Hoppe, the Stiftamtmann, and met some of the French and Danish officers. Small cakes, rye-bread with cheese, and enormous radishes. At Mr. Müller's, there were in pots in the house, a poor run pink carnation, a scarlet Chinese rose, mignionette, and a small fuschia. The people were planting out turnips in their little plots of garden ground, and potatoes were coming up in some places. I saw no other vegetables growing except mustard and cress, unless *Archangelica* is to be called one. The *Urtica urens* has now spread into most parts of the town, from the one garden mentioned by Hooker. A large *Dock* is very frequent in and about the town.

July 3. Sailed at 9.30 for Hvals-Fiord, with a fair wind. At about half-way up we turned into a small harbour, called "Maria Havn," where we anchored, and I went towards the lofty mountains at the head of the bay, but in passing a broad morass, I found so many *Carices*, etc., that it was too late to think of fording the river and ascending the mountains, upon which there is snow in large patches and fields. The little bay is surrounded by lofty hills, and is a most beautiful place. But few fish were obtained; but at 11 p.m. Astley and Tom Gisborne set off in a boat to shoot Eider-ducks, of which there were thousands upon thousands; they remained out till near 1 a.m. on the 4th, and brought back eleven ducks. It is now as light as day during the whole night. Sailed again this morning for the head of the Fiord, with very light winds. At the head of Maria Havn there is a series of rapids almost amounting to a waterfall. At about 1 p.m. we came to an anchor at Austur-Hvammsvík, near the head of the Fiord. Almost immediately we landed, and I proceeded to examine a very precipitous mountain of trap-rock, called Reynivalla-háls, upon which I found very many

Alpine plants. After a careful examination of a considerable part of the cliffs, I gained the top by a circuitous route, not being able to get up the upper precipice. The top was mostly covered with rather small stones, with only here and there a tuft of herbage of *Saxifraga*, *Armeria*, or mostly *Silene acaulis*. I had much difficulty in finding my way down again, having had to ascend again when near to the bottom, and to put back three or four times. At last I reached the boat with box full of fine plants at 7 p.m. The view from the top was of the wildest character, nothing but barren or snowy mountains and boggy valleys in all directions. Indeed the very wildest view that I have ever seen.

July 5. Returned to Reykjavík with a good wind, but rather too much ahead. Took a walk on land in the evening.

July 6. A very fine day, went with the net up to nearly the old place, and fished with great success. I found a few new plants. Visited Viðey on our return, and saw Eider-ducks' nests, and numerous very tame sea birds. Walked to the look-out on the hill after dinner. On the way from Viðey we ran upon a rock, and were nearly upset. Indeed we all thought that the bottom of the boat was broken open; fortunately no injury was done.

July 7. Started for the Geysers, with a drove of seventeen horses. Ditchfield the steward, and Hansen the Dane, went with us. I felt quite out of my way on starting for a four days' ride. The first few miles of the way was a moderately good path, crossing the river at a short distance above the fishing place. Afterwards the road led through a hilly country nearly parallel to the mountains bordering Hvals-Fiord. We stopped in the middle of the day in a fine grassy glen, to rest the horses, and then proceeded over a wild and dreary stony moor until near Thingvalla, obtaining a fine view of the lake of that name, some miles before our arrival. At length we reached the top of the lofty and perpendicular cliff of the Almannagjá, into which we descended on foot, without unloading the baggage; then fording the river Öxará we reached Thingvalla at about 10 p.m., and took up our quarters in the church. We dined or rather supped in the choir, and slept there on the benches by its walls. I then walked amongst the crevices of the lava (most of them full of water), also to the fall of the Öxará into the Almannagjá.

July 8. After a very bad night in the church, I went to botanize on the lava, and had great success in a walk of about five miles, when the party overtook me, and I mounted my horse. We soon came to a crack in the rock similar to the Almannagjá, and parallel to it, which we crossed upon a ridge of stones which had fallen in, and nearly filled it up in one place, so as to allow a narrow path along its top, and so got to the other side, after a very rough scramble over the masses of rock. All this part of the country is covered with low bushes of *Betula glutinosa*, *Betula intermedia*, and

Willows, amongst which the *Salix lanata* was peculiarly beautiful. The highest Birch which I saw was about six feet tall. We soon reached the foot of the mountains on the east side of the valley of Thingvalla, having rounded the end of the lake, and descended from the lava by a very steep and rugged path into a fine grassy district. This lava is found by the Baron Waltershausen to have come from a mountain in this neighbourhood, and descended as far as Hafnar-Fiord. At the top of this descent we saw the so-called crater mentioned by Hooker, and also the caves in the lava, the roof of one of which seemed as if it was a regular arch of stones. Further on we passed along the base of a grand range of dark, quite barren, mountains, which looked as if they had so recently been burned that there had not been time for vegetation to commence upon them. Then followed a very extensive morass, on the borders of which are several hot springs sending up volumes of steam. We crossed a part of this in order to find some large streams, and then turned into the hills, through a very pretty country, having continual views of the marshes, with two large lakes and large streams in them. At length we arrived at the river Brúará, which we crossed by a most singular and formidable looking ford. The river was here falling into a narrow crevice, passing lengthwise up its bed, over which a small wooden bridge was thrown, so that by fording to the bridge, and again fording to the further shore, we passed it. At length we came in sight of the Geysers, and saw a distant eruption of the Little Geyser. Passing a very wet marsh, and a river said to be dangerous from holes, we reached the Geysers at about 9.30 p.m., and after pitching our tent near the great one, we saw an eruption from it of moderate size. We found the Baron von Waltershausen and some French and Danish gentlemen in four tents there before us.

July 9. This morning the Great Geyser favoured us with a very grand eruption, preceded by sounds like the distant firing of great guns, and a shaking of the ground for some distance around. The water rose to the height, by careful measurement by the Baron, of 105 English feet. During the day the Strokkur had three fine eruptions, one of which sent the water up to 146 feet. The Great Geyser had several small eruptions during the day, and often boiled over. We never went out of sight of the springs during the day, but employed ourselves in botanizing and collecting minerals, etc. Guy Gisborne was so unfortunate as to scald his foot at the Great Geyser.

July 10. This morning we left on our return, with much sorrow on my part, as I should have much liked to continue there another day, the interest of the place rather increasing by time. We saw a very fine eruption of the Great Geyser before starting. Also smoke from the lofty mass of Hekla, which is visible over the tops of the nearer hills. We reached Thingvalla in the evening. As yet we had had peculiarly fine weather. Slept in the tent.

July 11. Returned to Reykjavík. The day was rather bad and showery, and one heavy storm overtook us in the hills, which lasted about an hour.

July 13. Called and took leave of the Governor, who had been on board the "Antelope" in the morning, and shewn us the public library of the town, which is rather extensive, and is kept in the loft over the church. In the church there is a square font beautifully carved on the sides by Thorwaldsen. A sheep purchased at Reikjavik weighed 30 lbs. and cost 4*d.* per lb., 10*s.*! At 6 p.m. we got under way, and by 10 had got into the open sea, when it came on to blow a smart gale of wind, and we had to lie to until the middle of the next day.

July 14. Nearly all the ship's company were more or less ill. I got over it by dinner time. It blew hard all the day.

July 15. Rounded the outer island of Reykjanes at 7 a.m., and were off the Westmen-Islands in the evening.

July 16. Dead calm early in the day, and light winds in the evening. Off Eyafell and Mýrdals-Jökuls. We saw a whale at about a mile off attacked by a Thresher. The blows of the latter were most wonderful.

July 17. Still light winds. Rounded Portland early in the morning. Had fine views of the snowy mountains all day, and towards night came abreast of Öræfa-Jökul, of which we obtained a very good view, and saw its glaciers to much advantage. One of them had a large moraine in its centre, and shewed the crevices very plainly as it expanded round a rocky point, where also a deep depression was shewn between it and the cliff. We were unable to go within some miles of the land, on account of the uncertainty of the winds and its own badness. The snow descended about a third down the mountain, and the glaciers to the low land near the sea. Many other lofty Jökuls were to be seen inland. Towards the evening the wind rose, and with it the sea, so that at 9 p.m. the ship was hove to, and continued so all the next day.

July 18. With a very heavy but short sea.

July 19. A continuance of the same weather, but rather less wind. As the weather proved that we could not possibly reach Reyðar-Fiord before Wednesday at the soonest, Astley determined that his engagements in England would not allow him to spend any time there. He therefore turned the ship's head towards England, much to my sorrow.

July 20, 21, 22. Moderate and favourable winds. Made a good run for St. Kilda.

July 23. A gale of wind, which we afterwards learned was considered as most severe in Lewis.

July 24. Laid to all day. Saw the Island of Rona at 7 a.m. at a distance of about four miles. At the time we endeavoured to persuade ourselves that it was St. Kilda, as the captain supposed. Got under way again at 8 a.m., July 26th.

July 26. Again saw Rona, having regained the distance which we had lost during the gale, at 3 a.m., and made Cape Wrath at 3 p.m. Our making the latter place proved that our captain was 160 miles wrong in his calculations! At 10 p.m. a very severe squall came on, and we had to heave to. By this time . . . Astley had to navigate the ship.

July 27. As the wind was unfavourable for our reaching Portree, and the captain was ill, we made for Stornoway, and anchored at the head of Loch Tna or Broad Bay at 2 p.m. We then walked to the town, where we spent the night.

July 28. Remained at Stornoway. "Antelope" brought round into the harbour. Astley and I walked some distance into the country on the opposite side of the harbour to the town. Went on board in the evening.

July 29. Sailed at 7 a.m., beating down close to the coast of Lewis as far as the Shiant Isles, where we were at 2 p.m., and then bore away for Portree in Skye, which we reached at 9.30 p.m.

July 30. Boarded the "Tartar" steamer at 4 a.m., and arrived at Greenock at 9.45 a.m. the next day. Proceeded to Edinburgh. Dined with Balfour.

Aug. 2. Joined Newbould at Edinburgh.

Aug. 3. Went to Glasgow.

Aug. 4. By steamer to Dumbarton, and by Loch Lomond to Inverarnon. Examined the lower part of Glen Falloch.

Aug. 5. Walked by Loch Sloy, over the top of Ben Voirlich.

Aug. 6. Went up to the waterfall, opposite the inn at Inverarnon. By coach to Lawers Inn. (*Note.*—Lawers Inn is a very poor place. Nearly starved).

Aug. 8. Thunderstorm at about mid-day, which washed away the bridges and part of the road near Loch Tay. Could not get out to work all these two days. Went to Kenmore.

Aug. 9. *Sunday.* Walked along the south shore of the Loch for some miles. Visited the falls of Acharn. No sermon. *Rubus latifolius* in the wood just below the road at about half-way (?) between Kenmore and Acharn.

Aug. 10. To Dunkeld, Perth, and Edinburgh.

Aug. 12. With John Goodsir to his brother Joseph's manse at Largo. Crossed to Burntisland, and then went by coach along the coast.

Aug. 13. John Goodsir, Newbould, and I went to St. Andrews. By the way we saw the ruins of a monastery at Kilconquhar, and a beautiful little church at St. Monance. Called upon Mr. Lyon, the Episcopal clergyman, who went with us to see all the antiquities. The old tower of the original cathedral interested me the most.

Aug. 16. *Sunday.* Heard Goodsir preach, and was much pleased.

Aug. 17. Set off by the coach to return to Edinburgh. The coach was very much overloaded, and as it was passing through the town of Leven, it ran against a cart, and was upset. I was so fortunate as to escape without more than a few bruises and a wound on my hand, but Newbould's left shoulder was put out. We got his arm put into place again, and returned to Largo, where we were detained until the 25th.

Aug. 24. Walked to Balcarres, and ascended the look-out tower.

Aug. 26. Ascended Arthur's Seat. Left Leith at 3 p.m., and after a very pleasant voyage reached Hull at 8 p.m. the next day.

Aug. 28. Placed Newbould in the hands of his brother. Visited the church, and left by steamer at 1.30 p.m. for Yarmouth, where we arrived at 5 a.m. the next day.

Aug. 29. Got to Cambridge.

Sept. 8. Left home, and arrived at Southampton on the 9th, to attend the British Association Meeting. Lodgings at 5, Bernard Street, with Balfour and Wollaston.

Sept. 12. Balfour and I went to Cowes, and Salter shewed us Cockleton Bog. We also went to Apes Down, and found *Calamintha sylvatica.*

Sept. 13. To Winchester to the Minster and St. Cross. Dined with Dr. White, and back to Southampton.

Sept. 17. Left Southampton, and went with Wollaston by coach by way of Romsey and Salisbury, and Avebury to Swindon. Then to Bath.

Oct. 6. Cambridge.

Nov. 10. Went to London to meet Mr. Borrer. Slept at Mr. Forster's at Woodford.

Nov. 11. Borrer and I went to Hertford, and were shewn *Juncus diffusus* by Coleman. Back to Cambridge. Placed on a syndicate to superintend the new Botanic Garden.

Dec. 15. At the Linnean Club.

Dec. 17. Dined with Red Lion Club in London.

Dec. 18. Cambridge.

1847. *Jan.* 9. To Yoxall Lodge, where I examined my late uncle's (Canon Gisborne) collection of plants and botanical books.

Most of the former were worthless, from damp, and so were destroyed—some I was given. Of the books, I was given Curtis' "Fl. Londin." the old edition, and Bolton's "Ferns."

Jan. 18. To London with Astley and T. Gisborne.

Jan. 19. Linnean.

Jan. 20. To Henfield, and back on 23rd, and to Cambridge.

Feb. 18. To Ely and back with J. J. Smith and W. H. Stokes, with the intention of going to Haddenham, but we found that Mr. Banks was from home.

April 6. Went from the Linnean Meeting with Dr. J. D. Hooker to Kew to examine plants.

April 7. Returned to London and Cambridge.

May 20. Botanical party to Gamlingay.

May 24. Attended the Linnean Anniversary Dinner.

May 28. Newbould, Townsend, and I went to Whittlesford by rail; walked to Triplow Heath (now under corn, and therefore spoiled for botany), to Foulmire, Triplow, Newton, Shelford, and home by rail. In a thicket at Triplow we found *Lonicera caprifolium* in plenty.

June 7. Newbould, Townsend, and I went to Yarmouth. We botanized that afternoon upon the Denes. To the south we got *Trifolium suffocatum*, *Cerastium atrovirens*, etc.

June 8. We went to Burgh Castle by the footway, and then along the marshes to Belton Fen, and the village of Belton. Near Burgh Castle we got *Alopecurus bulbosus*. In Belton Fen *Stellaria glauca*.

June 23. Went to Oxford by the express train. British Association. Had rooms in Christ Church. The "Red Lions" established themselves at the "King's Arms."

June 26. Went with Wollaston, Newbould, and Lankester to Pangbourne. We botanized on the hills to the north-west of Pangbourne all the afternoon. Here I first saw *Iberis amara* in a wild state. In a brook that supplies the mill at Pangbourne, at some little distance from the village, where it is very swift, we found true *Ranunculus aquatilis*, much lengthened out, but not at all changed towards *R. fluitans*.

June 27. We crossed the river to Whitchurch, and then passing behind the Hall, on the way towards Goring, we turned up the hill over the fields, and found in a wood a large quantity of *Melampyrum pratense latifolium*. We then descended the hill through the woods towards the Goring path, and on the grassy slopes under the belts of wood we found a moderate quantity of *Orchis militaris*. Crossing

the river by the railway bridge we visited Basildon Church (beautifully restored), and returned by the bank of the river. That evening we returned to Oxford.

June 28. Dined at New College.

June 29. Dined at Lincoln College with Metcalfe, a Fellow there, but late of St. John's, Cambridge.

June 30. Walked with Wollaston and Mr. Young, of New College, to Godstow, where we got *Aristolochia.* It grows on a hedge bank, well defended in front by a wet and muddy ditch. We then went into Whitham Wood, and walked all round it, and through, in several directions. From a high hill in it, there is a most extensive and beautiful view in all directions, and from one place a peculiarly fine one of Oxford. The wood is rich in plants, but none of any great value.

July 1. To Pangbourne, in order to get more specimens of *Iberis*, and some other plants. (N.B.—Go to the "Elephant and Castle" Inn). Walked over the same district as on June 27th, but extended my walk to Goring, where there is a curious Norman turret-stair in the church. The plants of *Orchis militaris* left in flower on the 27th June were now quite burned up and dead.

July 2. To London and Cambridge.

July 5—7. The Installation of Prince Albert as Chancellor of the University. He arrived with the Queen. I did not attempt to go into the Hall at Trinity College to see the Address presented. There was a great crush at the door. Nor did I go into the Senate House.

July 6. Horticultural Show in Downing Grounds. Went there at 11 a.m. to judge the "specimen plants in pots." A great crowd of people in the afternoon. Between 9 and 10,000 tickets sold, and many people got in without, either over the fences or through the gates, which were forced open by the press, and obliged to remain so for some time. The Queen went there. We dined together in a tent after it was all over.

July 7. Public Breakfast in the walks of Trinity and St. John's, united by a bridge thrown over the river at the narrow point. Feeding in Trinity Cloisters, and a sad scramble. Dancing in St. John's walks in a large tent put up in front of the new court towards the western end. A showery day, but beautifully fine in the evening. 3600 tickets sold at 21*s.* each, some tickets 26*s.* each, at the later time; and many believed to have got in without, or with the same ticket. It went off very well. Very hot weather during the following week.

July 29. University Election continued until Aug. 3rd.

Aug. 4. Went to Ely to meet the Archaeological Institute, and

hear Willis' Lecture on the Cathedral. Botanized in the neighbourhood before and after, and returned to Cambridge.

Aug. 9. Left Cambridge with Newbould, by way of Thrapston by coach, then rail to Blisworth and Birmingham, and then by coach to Shrewsbury, where we arrived at 9.30 p.m.

Aug. 10. Breakfasted and spent the day with Leighton. We went to Bomere, and found *Scheuchzeria palustris* in the old place.

Aug. 11. By coach to Capel Curig. Met Wollaston at Cerrig-y-druidion on his return from Wales. Examined the rounded hill opposite to the turn to Capel Curig from the main road to see if we could find *Cotoneaster*, said by Kingsley of Sidney to grow there, but could find nothing like it, except a *Salix*. Do not believe that it grows there, as it is not a likely place for it.

Aug. 13. Early this morning we took a car to Llanberis, intending to put up at the "Vaynol Arms," but found that the old keepers of that house had gone to America. We went to the Dolbadarn Inn, and found excellent quarters. Immediately after we arrived we started for the lower parts of Snowdon. We examined the whole range of the lower and middle part of Clogwyn-ddûr-Arddû, and found *Lloydia serotina* at the base, near the lower end of the great hollow, in a very accessible place. I crossed the hill above Bwlch-y-cwmbrwynog to see what the country was beyond. Returned along the west side of Cwmbrwynog under Moel-y-cynghorion.

Aug. 14. Went to Bwlch-y-cwmbrwynog, and descended to Llyn-ffynnon-y-Gwas. Went round the hollow under Y-Wyddfa by Llyn Glas, Llyn Goch, and Llyn-y-nadroeth; then up Llechog, and over Bwlch-y-main to the summit of Snowdon, returning home by the usual route from the summit.

Aug. 15. *Sunday.* Took a quiet walk round the lower lake. Went to church in the club room, and after dinner walked up the lake as far as the bridge near to the church.

Aug. 16. Spent the day in the lower grounds examining *Rubi*, etc. We went by the old road, which passes at some distance above the lake on the hill side, as far as Bryn Gwyn, then joined the turnpike road, and examined the marshes at Cwm-y-Glo, where we found *Isoëtes*, *Subularia*, *Alisma natans*, etc., returning by the north-east side of the lake. Far the best view of Snowdon is from that side of the lake.

Aug. 18. Went up to Llyn-y-cwm, in a thick cloud on the mountain; we saw Twll Dhû to great advantage, both from above and below. I gathered one fruited plant of *Lloydia* a little before reaching the lower opening of Twll Dhû.

Aug. 19. We went up to Glydr Vawr, ascending to the top of Esgair Felen (?) along it to the summit, on to Glydr Vach, near to

which is the best view of Trefan which I have seen. A little below the summit we descended into Cwmffynnon, then by the lake to the head of the pass down which we came home. We got no plants of value.

Aug. 20. Ascended Snowdon as far as the Bwlch Glas, then across to the top of Clogwyn-ddûr-Arddû, then down the slope to the base of Crib-y-ddysgyl, and along its base to near the slope of grass by Crib Goch. Found *Carex atrata*, *Aspidium lonchitis*, *Sausurea*, etc. Returned down the watercourse through Cwm Glas.

Aug. 21. Went by the quarries round the base of Elidyr Vach to Marchlyn Mawr, over Bwlch-y-brechan by the top of Foel Goch, and near to the summit of Garn, then back by Cwm Dudodyn, and round the head of the upper lake.

Aug. 22. *Sunday.* Took a short walk on the opposite side of the lakes.

Aug. 24. Went by car to the "Penrhyn Arms" at Bangor. Walked to the Menai Bridge and tried to find *Rosa Wilsoni*, but without success. Inspected the works for the Britannia Bridge, on the Anglesea side.

Aug. 26. Called upon Mr. John Roberts, the botanist. Went to Conway by coach, and walked to the Orme's Head and back. Saw Newbould off by coach.

Aug. 27. Walked alone to Capel Curig. Was much disappointed in the Llanrwst valley. Near Gwydir I found *Thlaspi alpestre* by the road side.

Aug. 28. Walked to Dolbadarn.

Sept. 5. *Sunday.* Heard Mr. Williams, the Rector of Llanberis, in the Dolbadarn club room, for the fourth time, and was much pleased with his preaching.

Sept. 6. Found *Centunculus* and *Callitriche pedunculata vera* on the mud of an old reservoir at Lord Newborough's slate quarries. (*N.B.—Ranunculus Lenormandi* is quite common in the clear running streams with a muddy bottom in this valley. I have seen no *R. hederaceus.*)

Sept. 7. Cleared up in the afternoon, and I walked to Dinas Dinorwig, which is a fine and perfect earthwork with two lofty banks all round, except where the hill is so steep as not to require them. There is a very fine view from it of the mountains, and also of Anglesea, and both the seas. In a little stream on the way to it grows the *R. hederaceus*; the place is about a mile beyond the bridge, at the foot of the lower lake, and quite out of the mountains.

Sept. 9. By car to Carnarvon, and then by mail to Chester.

Sept. 10. To Gloucester by rail.

Sept. 11. To Lyston by coach. Found there Mr. Henry Hugget of Bury, Suffolk.

Sept. 20. Went to Pontrilas, and called upon Mr. Bentham. Also walked along the Monmouthshire side of the Monnow as far as Grosmont, where there are the ruins of a very fine castle, and a fine church. The view from the castle is very fine. A beautiful chimney remains in the castle.

Sept. 22. By coach to Gloucester, and rail to Cambridge.

Nov. 2. Went to London for Linnean Meeting. . . . . Slept at Rothery's.

Nov. 3. Went to Kew to consult Dr. Planchon about the supposed *Udora* from Leicestershire. Dined at Hooker's, after spending some hours in the Botanic Garden. Rothery introduced me to Mr. MacDonald, the new Governor of the Gambia.

Nov. 4. Returned home.

1848. *Jan.* 18. Went to London to the Linnean Meeting.

Jan. 19. Geological Meeting.

Jan. 20. Returned to Cambridge. February and March were peculiarly wet months, but mild.

April 11. Walked to Fulbourn with J. Statter. Found *Fumaria micrantha* at the north end of a field, and *Vinca minor* in plenty at the south-east corner of the same field, in a thicket. Went on to the Fleam Dyke and found *Anemone Pulsatilla* in flower. On our return in the wood near the mill-house we got *Viola sylvatica* in beautiful flower. Gathered *Ranunculus trichophyllus* in Coe Fen in flower.

April. 18. Went to London to Linnean Meeting.

April 19. Geological Meeting.

April 28. Rev. A. Bloxam came here, and remained until the 28th May.

May 13. Newbould, Townsend, Lukis, Statter, and I went to Fulbourn, and the Fleam Dyke, where the *Anemone Pulsatilla* was in seed, and *Hippocrepis* just in flower; through Great and Little Wilbraham, across Wilbraham Fen, by the Long Drove to Quy bridge, and home.

May 20. Statter, Townsend, and I went to King's Hedges, Impington, where we found *Chenopodium Bonus-Henricus* in flower; Histon, Westwick, and Long Stanton. We returned by the railway.

May 26. By railway to Long Stanton. Visited, with J. J. Smith and others, Willingham Church, where there are an interesting chantry, a fine old roof to the nave, and other curious points. Also Balsar's Hill, a large, nearly circular encampment, which has been

greatly lowered since the enclosure, and seems likely to be soon almost totally destroyed by the plough. Then to Rampton, where we inspected a very curious quadrangular mound, defended by a deep and broad ditch, and an outer bank on three sides. It is highly deserving of a careful examination. Returned from Oakington station.

May 27. Townsend, Lukis, Newbould, and I went by rail to Dullingham. Walked and botanized on the Devil's Ditch, and in Wood Ditton Park wood. *Geranium sanguineum* and *Orchis ustulata* in flower. Returned by rail.

June 1. Henslow's Gamlingay party. We found *Malaxis paludosa* in a little patch of remaining bog.

June 3. I went with Townsend and Woodhouse to Brandon, and walked to Thetford. The greatest variety of plants near the former.

June 24. Newbould and I went to Coldham Common, Cherry Hinton, and home. We found nothing curious.

June 27. To-day we went to Fen Ditton and Baitsbite.

July 4. Newbould and I went to Brandon. We found, just out of the town on the way to Thetford, *Crepis foetida*. We then crossed the country, finding nothing, to Redneck Heath, where we got a great quantity of *Apera interrupta*, especially in a pit at about half-a-mile from the Elvedon road. We also found there *Alsine tenuifolia β viscida* amongst the corn in plenty. On walls in Thetford *Galium anglicum* and *Poa subcompressa*.

July 15. Newbould brought me *Orobanche Picridis* from Comberton. I went there with him and gathered plenty of it in a field just within the parish of Toft, at the end of a field lane to the left of the road.

July 27. Went to Saffron Walden to meet Borrer. Went with G. S. Gibson and Joshua Clarke to Linton, and near Hildersham was shewn plenty of *Filago Jussiaei*. We then went to Comberton and gathered *Orobanche Picridis*. Newbould returned to Cambridge with us, and we got *Potamogeton zosterifolius* in the ditch behind Queens' College, and a ditch on the east side of Sheep's Green.

July 28. Borrer, Newbould, Gibson, and I went to Thetford. We gathered *Apera Spica-venti* near the town, *A. interrupta* in the old place, *Melilotus arvensis* near the town, *Filago apiculata* by the *Apera* pit, *Scleranthus perennis* and *Silene otites* near Redneck Farm, *Galium anglicum* on walls near the town.

Aug. 1. Churchill Babington brought me *Filago Jussiaei* from the Hills Road, and *Knautia arvensis integrifolia* from Cherry Hinton.

Aug. 2. I went alone and found the *Filago* plentifully by the Hills Road, especially near the house at the foot of the hill near the

chalk pit, also *Melilotus arvensis* in many places, *Lychnis nostiflora* in field on the top of the hill. At Cherry Hinton the *Knautia arvensis integrifolia* and *Carduus eriophorus.*

Aug. 7. Left Cambridge, and slept at Dr. Lankester's in London.

Aug. 8. By rail to Bristol, and then by steamer to Swansea; arrived at the Mumbles at 8.30, and did not reach Swansea until 12 at night. At last, at about 1 a.m., we got into a house, furnished for the meeting (British Association).

Aug. 9. First day of the meeting. Newbould and Rushton came and joined us.

Aug. 10. Lankester and I dined with Mr. Dillwyn, and met Mr. Rodgers, the American Professor, and Sir David Brewster.

Aug. 12. R. W. Falconer, Lankester, Newbould, and I walked to the Mumbles Head, then along the coast as far as Pennard Castle; dined at the Gower Inn, and back again to Swansea; in all about twenty-six miles.

Aug. 13. Falconer and I went in a gig by the road Cefn Bryn to Stout Hall in Gower, the residence of his brother-in-law, Mr. Wood. *Oxalis stricta* a common and troublesome weed at Stout Hall.

Aug. 17. Left Swansea at 5.30 a.m., and had a very rough voyage to Tenby. Bowerbank and Mr. Woodward were with us. Spent the afternoon with them in the caves in St. Catharine's rock, examining zoophytes, sponges, etc. (N.B.—Saw a sponge, *Cliona cellata*, contract greatly when touched. A remarkable fact). Saw *Bowerbankia*, *Grantia*, and many other animals. Bowerbank and Woodward exhibited the animals with the microscope.

Aug. 18. Went to Giltar Head. Found in an old quarry *Orobanche Picridis*, on the inner side of the ridge of hill running inland from the Head.

Aug. 19. Went to Manorbier Castle. On a sandy cliff over the sea, in the bay formed by Lydstep Point, and opposite to it, we found *Matthiola sinuata* in plenty.

Aug. 22. In a car to Haverfordwest. Walked to Milford, where we saw *Rubus incurvatus.* Noticed that the churches had lofty narrow square towers with windows at the top, and often only loop-holes below. Walked from Haverfordwest to St. Davids. Country rather uninteresting. Castle at Roch worth notice, a single tower, much ruined.

Aug. 24. St. Davids a very poor place, a mere village. Cathedral well worth a visit. Bishop's Palace a most beautiful ruin. Early English. Walked to Whitesand Bay, and then to Fishguard by a dreary road.

Aug. 25. Along the coast to Dinas, where we examined the entrenchment of the island. Called upon the Rev. Watkin Thomas, the incumbent, whom I had known in 1846 in Cambridge. He much wanted us to stop, but I had not time. Crossed the hill, and returned by the valley.

Aug. 26. Examined the bay and marshes to the west of the town. In the afternoon went by coach, in the rain, to Cardigan, through a most beautiful country, well deserving a careful examination.

Aug. 27. *Sunday.* Took a quiet walk after church to the Warrens, near the mouth of the river.

Aug. 28. Having sent our things on by a fish-carrier to Aberystwyth, we walked twenty-three miles to Aberaeron, through a dreary and uninteresting country. That is a nice clean little town.

Aug. 29. Walked to Aberystwyth, sixteen miles.

Aug. 30. We went by coach to the Devil's Bridge. Falls far best seen from the opposite side of the river from the inn. Well pleased. Walked back by the new road. All this country very beautiful.

Aug. 31. Newbould returned home. I spent the day in exploring near the town.

Sept. 1. By coach to Carnarvon. A most beautiful day. (N.B.—A good place to stop at would be the inn called "Braugh Coch," between Machynlleth and Tal-y-Llyn).

Sept. 4. To the Dolbadarn Inn, Mrs. Evans, at Llanberis.

Sept. 6. Met with Franks, and went about the neighbourhood with his mother and himself.

Sept. 7. Found that Hort was at the lodgings near to the inn, as a pupil of Mathison of Trinity College. He and I went to Twll Dhû.

Sept. 10. Dined with Mathison and his party.

Sept. 11. To Carnarvon to attend the meeting of the Cambrian Archaeological Association.

Sept. 12. Went with a party to Anglesea. Visited Newborough, where we failed in getting into the church; Llangadwaladr, where we saw the ancient inscription to Catamanus; a supposed cromlech at Henblâs, most likely a natural heap of rocks; the church of Llangristiolus; the cromlechs at Plas Newydd; and the old house of Plas Coch.

Sept. 13. Excursion to Clynog Vawr to see the church, cromlech, and well; and to Llanelhaiarn Church; and the top of the "Rivals" to the British fort of Tre'r Ceiri, which is a most interesting place, with extensive walls standing, and numerous foundations of houses.

Sept. 15. Visited with the members the remains of Seguntium. Mr. Hartshorne took us round the castle, and illustrated it most excellently.

Sept. 16. Went to Bangor.

Sept. 18. Crossed Garth Ferry, and visited Llanfair churchyard, the Britannia bridge, Llandissilio churchyard, and the eastern slope of the Straits.

Sept. 19. Up the valley of the Ogwen by Llanllechid, and back by the other side of the valley.

Sept. 20. Went to Conway, and spent the day on the Orme's Head; saw the church and the monuments in it.

Sept. 21. Had a most interesting walk on the mountains; visiting Castel-caer-Lleion, circles behind Penmaenmawr, and the fort upon its top.

Sept. 23. Home to Cambridge.

Oct. 5. With Newbould to Thetford. Went by the west of Elvedon, by Summer-pit farm, along the Duke's ride to Barnham St. Gregory, and back to Thetford. Found plenty of *Artemisia campestris* and *Silene otites* still in flower by the Duke's ride.

Oct. 7. Went to Chesterford by rail to meet J. J. Smith, and assist him in measuring and planning the Roman buildings at Ickleton.

Nov. 10. Went with Willis, J. J. Smith, Franks, Townsend, and Lukis to Bottisham, and spent some hours in the careful examination of the church, under Willis' direction.

Dec. 19. Went to London.

Dec. 21. Went from London to Hertford, where Mr. Webb met Mr. Coleman and me, and we walked to a wood where Coleman found what he supposes to be *Barbarea stricta*, and also *Mentha pratensis*. We then went in Webb's carriage to Essendon.

Dec. 22. After spending the morning in the examination of the *Rubi* of the "Hertfordshire Flora," we walked for a few miles round the country.

Dec. 23. Returned to Cambridge.

1849. *March.* During the first half of this month the weather was unusually mild, and many of the usual spring flowers shewed themselves in great abundance long before their usual season of flowering.

April 10. To London and Hungerford by railway. Then in F. W. Collings' carriage to East Garston.

April 11. School feast at East Garston.

April 12. Drove to Tottenham Park. The gardens poor, except a fine hedge of rhododendrons. We went for some miles about the forest.

April 16. Took a long walk above the Chalk Downs.

April 18. To Cambridge.

May 2. Hort and I went to the Gogs; very little in flower. *Viola hirta-calcarea* and *Muscari racemosum.*

May 24. Gamlingay party, seventeen in number. Found *Sagina ciliata* on a bank near to the old hall, in the lane going towards brick pits.

May 29. Walked to Arbury Camp and King's Hedges with Mr. Arthur Taylor, R. Taylor's brother.

May 31. With the same antiquary to Grantchester to make out the Roman remains there.

June 4. Walked to Barton, and nearly as far as Haslingfield, to look for *Chara polysperma*, which I gathered there in 1833, but could not find it. Then by an occupation road to Long Brook, and over the fields to Lord's Bridge, in the old channel to the south-east of which, I gathered *Chara syncarpa β.* Then to Comberton by the brook-side, and Newbould returned to Cambridge with me. By the side of the occupation road, opposite to the public house at the end of Barton, I gathered a *Ranunculus*, usually called *hirsutus*, but with much broader nectaries.

June 14. To Bath.

June 18. Went over Bathwick Hill to the Dundas Aqueduct, then up to Conkwell, through the wood to Monckton Farleigh, Bathford, and home. *Ornithogalum pyrenaïcum* not in flower yet.

June 20. My aunt Bedford went to Clevedon. I went by rail. . . . for a few days.

June 21. Walked by the ruins of Walton Church (little more than a tower) and Walton Castle (a late building of no interest) along the Downs by the Pigeon House and Farley to Portishead. On the right-hand bank of the lane, a little beyond Farley, I found one patch of *Sagina ciliata.* Returned by Weston and Walton. Weston Church is good. A valley to the north of Weston is worth a visit. It is deep, narrow, and wooded.

June 22. By rail to Weston-super-mare, a place much increased of late. Examined the British fort of Wortlebury, and then followed the top of the hill to Kewstoke. Along the shore, sandy, to the Middle Hope Hill. Near Sand, found *Cerastium atrovirens*, *Alsine media*, *Sagina procumbens marina.* At Woodspring is a farm-house, formed in the church and buildings of a priory. The tower perfect and fine, well worth a careful examination. By a footpath to St. Lawrence Wick, where there is a fine foot of a cross raised high

above the ground, to Waterman's Row, along a footpath to Frith Bridge, and Kingston Seymour, and Kenn, and by the road to Clevedon. A very long and hot walk.

June 23. Along the sea-bank to the south as far as Hookyar, in a deep ditch opposite to which, found *Ceratophyllum demersum* in fruit. Back along the lane by Dowlas farm.

June 24. *Sunday.* To old church.

June 25. Along the road by Clevedon Court (a fine old mansion), . . . to the top of the hill, to Cadbury Camp, then down the hill to Walton Drove, and home.

June 26. By rail to Bridgewater, and coach to Dunster, to spend a few days with W. H. Coleman, who is temporarily settled there. In the evening went to Boniton, and gathered by the lane-side, a little before reaching that house, *Rubus Leesii*; through Dunster Park home.

June 27. Along the top of Grabbist Hill (on the ascent of which, found *Sagina ciliata*), by Wootton Courtney and Brockwell, to the top of Dunkery Hill. Descended by Bincombe ravine, and along the valley home.

June 28. To Nettlecombe by Withycombe, and dined with Sir W. and Lady Trevelyan. Back by Cleeve Abbey (well worthy of a visit, church gone, fine hall, etc., remaining) and the public road.

June 29. Examined the marshes and beach as far as Minehead.

June 30. Along the coast by Blue Anchor to Watchet, back by Old Cleeve. On the top of the wooded cliffs between Blue Anchor and Warren, we found a *Prunus* in flower, which we could not determine.

July 1. *Sunday.* To Withycombe Church.

July 2. Went by Boniton up Langcombe, and back by Broadwood. In the evening we went to tea at Minehead, with Capt. and Mrs. Gifford.

July 3. Went by Wootton Courtney, Huntsgate, and Luckham to Horner. There are Flemish chimneys in most of these places just like those in Pembrokeshire. Then up the Horner valley for about three miles (it is beautifully wooded, very deep, and picturesque), over the hill to Porlock, and Porlock Weir, at which last place we put up for a few days, at the "Anchor," a nice little inn. In the evening walked a little way westwards along the coast, and found plenty of *Sedum rupestre.*

July 4. To Culbone, along a road through the woods, over the sea. Owing to a slip in one place, we had to climb up through the woods with some difficulty, in order to get on. From the solitary little church of Culbone, we descended by a precipitous and deserted path to the sea (the latter part of the old path having fallen away, we

had to descend with some trouble over the remains of an ancient landslip), then along the rough shingles as far nearly as Glenthorn, then up through the wood and fields to the turnpike road. A little to the east of Glenthorn, and above the wood, was the only real cliff that we saw in that district. It seemed as if the front of the hill had fallen forwards and left a deep rocky hollow behind it. We returned down the old road from the hill, and found it scarcely passable.

July 5. Along the hill-top and down to Oare, up that valley to its head, and back over Lucott Hill. In the Oare Valley, found *Myriophyllum alterniflorum*. On Lucott Hill, *Ranunculus Lenormandi*; also found a circle of stones in a pretty perfect state. Rossington Beacon is a half-circle of stones, arranged pretty regularly, and inclosing a semi-circular space bounded by a perpendicular wall.

July 6. By Rossington, over North Hill, to Minehead and Dunster.

July 7. To London and Cambridge.

July 25. Went by early train to Broxbourne, where Webb and Coleman met me, and we went to St. Margarets and Stanstead Abbotts and examined Bonnington (?) Wood, finding *Rubus Babingtonii*, and many others. Then to Hertford and Essendon.

July 26. To Millward Park Wood, calling on a Mr. Church (brother-in-law to T. J. Selby), by the way. The wood is full of *Rubus Sprengelii* and *R. Güntheri* and others. (N.B.—A remarkable thunderstorm this day in London).

July 27. Went by Hatfield to St. Albans, where I spent a considerable time in the Abbey Church, and then returned.

July 28. Back to Cambridge. In the evening presided at a meeting for the formation of a Cambridgeshire Naturalists' Club.

Aug. 2. With Newbould to Mr. Gibson's at Saffron Walden, where we met Mr. Borrer and went to Heydon, where we got many plants, and back.

Aug. 6. Went to Bottisham Fen with Hort and W. Mathews, but found the country so dry that we got very little.

Aug. 11. Hort, Mathews, and I went to Thetford by an early train, and met there W. L. Hose, who came from Norwich. We went to the edge of Redneck Heath, then by the rectory at Elvedon to Barnham, returning to the town by the river side.

Aug. 20. Hort, Newbould, and I went to Lynn. We followed the sea-bank as far as North Wootton, finding very little. Hort found in the mud *Spartina stricta*; he also found *Atriplex deltoïdea*. We then went to Castle Rising, where there is a most beautiful Norman church, especially its west front; also an old Norman castle surrounded by enormous mounds and ditches. In one of the mounds

a former church, probably Saxon, has been discovered, it has an apsidal chancel with three small windows formed partly of Roman bricks. Their openings are very small, and the arch formed of two stones cut into that form. Returned to Lynn by Gaywood, and back by rail.

Aug. 26. To London in the evening.

Aug. 27. I went direct by rail to Chichester to meet Borrer and G. S. Gibson. We went to Selsey Church, and found near the first coast-guard station, *Dianthus prolifer*. At Sidlesham *Coronopus didymus*. Rounding the Bill, we returned to Chichester.

Aug. 28. To West Wittering and the mouth of the creek, finding *Atriplex litoralis*, *Statice Limonium*, and *Bahusiensis*, *Pyrethrum maritimum*; then to Dellquay where we got *Zostera nana* and *angustifolia*. Then we went down between the two heads of the creek, to near Hole's farm, and got *Oenanthe pimpinelloïdes*. Then by rail to Emsworth, where we again saw the two *Zosteras*, and back to Chichester.

Aug. 29. By rail to Arundel. Near the station saw *Zannichellia pedicellata*. On walls at Arundel *Sedum turgidum*, by the river side *Scirpus carinatus*. We went over the hill to Houghton Bridge, and got there *S. carinatus*, *Ceratophyllum demersum*; to Amberley, where *Leersia oryzoïdes*, *Scirpus triqueter*, *Potamogeton acutifolius*, *Lonicera Xylosteum*; then to Henfield.

Aug. 31. Went to Shoreham, and saw plenty of *Trifolium stellatum* dried up. Hunted a long time for *Triticum acutum*, but did not find it. Mr. Gibson went away, and I returned to Mr. Borrer's.

Sept. 1. At Henfield got *Leersia* on the right hand side of the drove in the level.

Sept. 3. To Box Hill by rail to meet Woods and Kippist. On the top of the hill *Epilobium angustifolium*; in a valley descending to the north on its east sides *Teucrium Botrys*, *Ajuga Chamaepitys*, *Bromus arvensis*, *Poterium muricatum*. Back to Henfield.

Sept. 5. Returned to Cambridge. In London called at the Linnean to make acquaintance with Dr. Hartman, son of the author of a "Scandinavian Flora."

Sept. 11. To Peterborough. Walked about the city, and looked at the cathedral.

Sept. 12. With W. P. Wilson to Birmingham, to the British Association Meeting. Quartered at the "Red Lion" in Church Street, with E. Forbes, Lankester, Ibbotson, Munby.

Sept. 15. Went to Warwick, and saw the castle and church. Then to Kenilworth, and spent some time in the ruins of the castle with Lord Adare. (Was a member of the Committee of recommendations at this meeting.)

Sept. 20. To Lyston to spend a few days with Lingwood.

Sept. 22. To Hereford, and saw the works at the Cathedral.

Sept. 24. Spent some time in the examination of the Church of Llanwarne, and the contents of the parish chest in it. Found in it the bill for casting the bells 200 years since; also imperfect copies of the works of Jewell and Erasmus, in black letter.

Sept. 25. To Orcop Church. Small, and rather curious. Old oak seats. Old timber upper part of tower. Also to St. Weonards, a fine restored church.

Sept. 26. With the Rev. Mr. White and Vernon to Pencoyd and Hentland; near the former an old moated house with vaulted cellars, with an armed stone figure in them. Hentland Church is being well restored.

Sept. 27. With the same to Garway Church, and the Pigeon House of the Knights of St. John (*see* the "Archaeologia"). Then over the top of Garway Hill, a splendid view from it, and back along the tops of the hills.

Sept. 28. To Ewyas Harold and Rowlstone to see the church. It has a singular Norman chancel arch, with a beautiful carving on the side of each of its capitals of two figures, one winged and holding a cross in one hand, and a book in the other; and the other a pilgrim perhaps; on the south side the figures are placed (originally) on their heads. Also to Abbey Dore, where the transepts and choir of a fine monastic church are in good preservation.

Oct. 5. To Cambridge again.

Dec. 6. Meeting at my rooms to confirm the rules and elections and fix the meetings of the Cambridgeshire Naturalists' Club for 1849. We dined at the "Red Lion."

1850. *April* 2. To London to the Linnean Meeting. Visited the Exhibition of Mediaeval Art at the Society of Arts.

April 3. Spent some part of the morning at the same exhibition. In the evening went to Bath.

April 5. Walked with Hort, who was visiting Bath, to the station for *Euphorbia palustris*. Over Coombe Down to the mill below Midford Castle, along the canal by the Dundas Aqueduct, over the river at Warleigh, by Bathford and Batheaston, behind Little Salisbury Hill to Bath.

April 8. Went with Hort to visit C. E. Broome at Batheaston. We then walked up the Rocks Valley. Hort left us, and I dined with Broome, and back to Bath in the evening. Met a Mr. Walton, of Grosvenor Place, Bath, a geologist.

April 9. Hort, Broome, and I crossed Lansdown to a spot of limestone west of Tracy Park, where we found *Gagea lutea* in flower.

Then visited a group of stones which once formed a cromlech (two stones are standing, the rest is a mass of ruin), and so to the top of the Wyck Rocks. Back by the Swainswick Valley to Bath.

April 10. Dined with Mr. and Mrs. Hort at 14, Brock Street.

April 13. Returned to Cambridge.

April 27. Went with J. B. Wilson up the Hobson's Watercourse to the Nine Wells. Found between the first and second bridges beyond the Via Lambertina one mass of *Chara polysperma*. It was in fructification.

May 3. Hort and I went by the Hills Road to Shelford to measure the camp there.

May 4. Wilson and I went by Coton to Hardwick, and examined the meadows and thickets at the head of the brook.

May 9. The first meeting of the Cambridgeshire Naturalists' Club. Linton. Went through the meadows to Little Linton, then to the Rivey. To Bartlow, and returned to Linton through the meadows on the south side of the river.

May 18. Hort and I went to Bottisham Fen. We examined carefully the usual ground, hoping to find *Viola stagnina*, of which we got none.

May 21. The party to Gamlingay. A larger number than usual, taking a coach and fly. Hort, Townsend, Lukis, and I went by Everton and the Hasells, then over Sandy Heath to Snow Hill, by Potton Mill to Gamlingay Heath and the brick clamp, and back to the "Green Man." All the heaths are inclosed, and most parts brought into cultivation. We found all the usual plants of the district, and in the Gamlingay brick-clamp pits *Chara syncarpa*.

June 5. I went with Adams, Reyner, Overton, and Cooper to Bottisham Fen. We did not find many plants, but got plenty of *Viola stagnina*, which had just commenced flowering.

June 6. This was the meeting of the Cambridge Naturalists' Club at Ramsey. The day was rather cold, and I spent most of the time in trying to make out the Roman station on Bury Hill, and in the examination of Bury Church.

June 8. To St. Margarets, Southelmham, by rail to Norwich, and coach to Bungay. Rev. E. A. Holmes.

June 10, 11. Went with Holmes (rural dean) to visit the churches in the Wangford Union.

June 13. Walked by Flixton Hall and Homersfield. *Trifolium glomeratum* grows on the slope of the hill at the latter, and *Alsine tenuifolia* on the ruins of the chancel at the former.

June 14. Visited some more churches near St. Margarets.

June 15. Came back to Cambridge.

June 18. Went to London to the Linnean Meeting.

June 19. To Oxford, to the meeting of the Archaeological Institute. Stopped at the "King's Arms." Was asked to take rooms at Christchurch (by Hill) and Magdalen College (by Daubeny).

June 20. Breakfast at Daubeny's, and visited the library of Magdalen College with Dr. Bloxam. Was shewn a lot of notes, etc., for a second edition of "Lobel's Herbal," which had been neglected and nearly lost. Dined in Magdalen College Hall.

June 21. Dined with Daubeny, and met Mrs. Hamilton Gray, the authoress about Etruria.

June 22. Went to Silchester with a party by special train. A peculiarly hot day. The Roman wall is very perfect, twelve to fourteen feet high, and nearly two miles in circuit. Dined with Dr. Acland.

June 24. To Bridgewater, where I met a Mr. F. Gell, of C.C.C.

June 25. After walking about Bridgewater, I was joined in the middle of the day by W. W. Newbould and W. H. Coleman, and we went by coach to Dunster. Went in the evening to the station of *Sagina ciliata*, at the south-east end of Grabbist, *Rubus Leesii* near Boniton, and *Lastrea foenisecii* up the coombe to the left from there.

June 26. Went by the beach to Blue Anchor and the station of *Prunus capitata*. Found plenty of the bushes, but very few flowers. *Prunus capitata MSS.* is a plant very like *P. spinosa* in habit, and is perhaps a state of it. Returned by Old Cleeve.

June 27. To the top of Grabbist Hill to see the British amphitheatre. The amphitheatre is placed on the top of the hill, open to the south on the precipitous face of it, and approached from below by a zigzag ascending path, formerly having a loose retaining wall of stones on its upper side. It forms a deep semi-circular hollow, with an arc of about one hundred paces, and chord of fifty paces. A path descends into it at the east end from the level of the hill. Hillside below the nearly straight open side. At a distance of about eighty paces back from it there is a boundary ditch. Depth, sixty or eighty feet. Down by Parsonage to the Dunster Marshes, where we found *Ranunculus confusus*, *Trifolium maritimum*, *Sagina maritima*, etc. Went to Minehead, and called on, and spent the evening with, Capt., Mrs., and Miss Gifford.

June 28. To Porlock.

June 29. To Culbone . . . below the church we found *Meconopsis cambrica*.

June 30. *Sunday.* To church at Porlock. In the afternoon we went to Culbone, but found that there was no service.

July 1. Crossed the head of the bay to Hurlstone Point, finding near to the latter place *Verbascum Lychnitis*, *Anthemis arvensis*, and *Mentha rotundifolia*.

July 2. Went above Whitestone Park and descended into the next valley, then ascended to the upper part of Lucott Hill, and found *Ranunculus Lenormandi* at the head of a stream descending to the north-east, then crossed the upper part of the Horner valley to the top of Dunkery.

July 3. By the old road to the Whitestones, then to Oare, and down the valley to Brendon, and over the hill to Ilford Bridges, from whence we descended the East Lynn to Lynton ("Valley of Rocks" Hotel). In the evening to the Valley of Rocks and back by the path by the sea.

July 4. By East Ilkerton to Sadler's Stone and Wood Barrow on the way to Moles' Chamber, but there was so much rain and cloud on the hills that we could not find our way; got wet through, and returned; then deviated to Ilford Bridges and hunted for *Rubus Leesii*, without success. Descended the right hand side of the river to Lynton. Found *Euphorbia hiberna*, *Melittis Melissophyllum*, *Meconopsis*, *Rubus suberectus*, *Lingua*, and *Güntheri*.

July 5. By Lee, Slattenslade, Martinhoe, Cherriton, and Kimacot to the valley of the Heddon; along it to Trentishoe, in the chance of finding Mrs. Griffiths there. *Rubus Schlechtendalii*, Trentishoe, *R. carpinifolium* (Blox.) on the upper parts of the hills; ascending the highest of any of them. *R. plicatus*, valley of West Lynn. Then by Heale to the Ilfracombe and Lynton road, and home.

July 6. By coach to Bridgewater, and rail to London and Cambridge.

July 15. W. H. Coleman came to spend a few days here.

July 16. Coleman, Newbould, and I went to Bottisham Fen, and found *Viola stagnina* in fruit in plenty, also *Chara tenuissima*.

July 24. Started for the north, and went as far as Lincoln. Walked in the evening to Boultham Church. Found in a ditch by the footway, *Anacharis Alsinastrum* in flower.

July 25. Went to the cathedral. To Hull, but missed the steamer for Leith. To Normanton.

July 26. To Edinburgh. Quartered at Professor Balfour's, 2, Bellevue Crescent.

July 27. In the Botanic Garden met James Backhouse, jun., on his way to Clova.

July 30. Dined with the medical faculty in the Senate Hall.

July 31. British Association Meeting began.

Aug. 3. Dr. Walker, Arnott, Gourlie, and I went to Berwick-upon-Tweed with Dr. Johnston. We gathered *Sisymbrium Irio* in perfection on the walls. Dr. Johnston shewed us in the White-adder river, above the bridge near its mouth, the *Anacharis Alsinastrum* in the utmost abundance, and full of female flowers. He stated that it was unknown there four years since, and that now it extends almost continuously for eleven miles along the river in a marginal mass of at least eight feet wide. A small state of *Ranunculus fluitans* is also there. Returned to Edinburgh in the evening.

Aug. 5. We had our only "Red Lion" dinner to-day at the Café Royal.

Aug. 8. By rail and coach to Crieff.

Aug. 9. By coach along the shore of Loch Earn, and Glen Ogle to Killin, where I met Lingwood (Mrs. and Miss Lingwood were with him).

Aug. 10. He and I took a car to the farm of Inch-hurich, in Glen Lochay, and ascended Mael Nachdar, where we got in a ravine of black rock near its west end *Cystopteris montana*, and upon its face, *Bartsia alpina*. Came back along the top of the ridge terminating just above the hotel at Killin.

Aug. 12. We went to Ben Lawers, taking a carriage part of the way there and back again. We found *Saxifraga rivularis*, and *S. cernua*, and *Draba rupestris*. We examined the rocks above Loch-na-Gat, but could not find *Woodsia*.

Aug. 13. Lingwood and his party started for the west, and I went to Inverarnon, and spent the afternoon in Glen Falloch.

Aug. 16. To Glasgow. Cathedral restored very nicely. Dined with Arnott, and met Gourlie, Mackay of Dublin, and Murray of the Glasgow Garden there.

Aug. 17. By rail to Ardrossan, where I spent most of the day. In the evening to Lamlash, Arran, and joined Balfour's family at Seafield House there.

Aug. 20. By the road to Lag and Struay rocks and sands. At the latter we found *Triticum laxum*, etc. Took a track across the mountains back again to Lamlash; lost it, and had a very hard walk in a direct line over moorland, home. Removed my quarters to the Lamlash Inn, which is a nice one. Sprained my left calf slightly on the hills.

Aug. 21. Walked quietly about to cure my strain. Found *T. laxum*, etc., on the beach at Lamlash.

Aug. 24. Walked to Brodick, and to the top of Goat Fell, along the ridge to the head of Glen Sannox, and down Glen Rosa, and so back to Lamlash. The hill is very barren, but the view beautiful. The route along the ridge is very difficult from the rocky and narrow form of the ridge.

Aug. 30. To Cambridge.

Sept. 6. Mathews and I went to Hardwick, to the pit containing the supposed *Potamogeton sparganiifolius*, and found it in fruit partially, but mostly in flower. We then went to Comberton, to Newbould's. Found near his lodgings *Rubus Wahlbergii.*

Sept. 13. Newbould and I went to Saffron Walden, and spent the day with Mr. Gibson. He shewed me the *Carduus dubius*, also the two *Fumarias*, *parviflora* and *Vaillantii.* We also (without Newbould) went to see the Roman villa, lately found by Mr. Neville, by the river Bourn, opposite to Linton.

Oct. 2. Went to Huntingdon, and walked round the station at Godmanchester. Also up the Roman Way towards Sandy, as far nearly as Burlieu Gap, then crossed to the Ermyn Street, and back to the town. It seems probable that the Sandy Way and the Via Devana passed west and east of the station respectively, whilst the Ermyn Street entered directly into it. The Sandy Way is reduced now to a bridle track for much of its course, and no trace (?) of the Roman Road remains. On the Ermyn Street there are manifest traces of the Romans.

Oct. 3. To Biggleswade to meet the Cambridgeshire Naturalists' Club. We crossed the river Ivel, and followed the road as far as Beeston, then along the bank of the river, and crossed it at Sandy Mill. Went to "Caesar's Camp," a British fortification, through the plantation on the tops of the hills, to the stone quarries and camp upon Gally Hill, back by Stratford, and along the meadows of the Ivel to Biggleswade.

Oct. 8. Went to Pampisford Hall, and followed the whole line of the Brent Ditch. There is no trace of a bank on the eastern side of it, and only faint ones on the west. The western side is uniformly rather higher than the other. There is nothing to shew that the ditch was filled up in order to allow the Roman Road to pass over it. The filling-up between the road and railway is modern.

Oct. 9. Returned to Cambridge.

Nov. 18. To London to a special meeting of the Committee of the Ray Club, and returned on Wednesday, 20th.

1851. *Feb.* 21. Went to London to attend the meeting of Geological Society, when W. Hopkins was elected President of that body. Dined with the Society.

Feb. 22. Returned to Cambridge. Sent the third edition of my *Manual* to the press.

March 26. My aunt Bedford died of bronchitis, aged 74, at 7, Beaufort Buildings, East, Bath.

April 1. Funeral at Broughton Gifford.

May 6. Left Bath, and gave up the house.

May 7. Reached Cambridge.

May 21. Newbould and I went on my first botanical walk for the season. We went by train to Chesterford, went by the possible line of the Roman Way to Strethall, then by Freewood to Elmdon, where we found *Juniper*, and visited a *tumulus*, and the church there in the course of a complete restoration.

May 30. Corrected the last proof sheet of the third edition of my *Manual*.

June 13. Went to Bottisham Fen with Stratton and Hort.

June 17. To London. Zoological Society, and saw the young elephant. Linnean Society in the evening.

June 18. Spent the whole morning in the Great Exhibition in Hyde Park. Dined with Lankester, and went with him to see Wild's Great Globe in Leicester Square.

June 19. Again at Exhibition. Royal Society. Admitted a Fellow.

June 20. Exhibition. Returned to Cambridge.

June 25. With Stratton to Gogs and Cherry Hinton. Found *Fumaria parviflora* and *F. Vaillantii*.

July 2. Went to Ipswich by way of Bury, to which place Sedgwick, G. G. Stokes, MacCoy, and I went by coach. British Association.

July 5. Excursion to Felixstowe, and up the Woodbridge river to Ramshott, to see the junction of the two strata of Crag by steamer. Lankester, Huxley, Dr. Smith (author of "Class. Dict."), and I landed, and slept at the Hotel at Felixstowe.

July 6. Huxley and I walked back to Ipswich in the evening.

July 9. To Thetford.

July 10. Cambridgeshire Naturalists' Club Meeting at Thetford.

July 15. Went with Newbould, Wauton, and Stratton to Waterbeach, then walked by the river side to Upware, and along the Spinny bank across the fen to a house near Wicken. Examined Wicken Fen, finding *Lathyrus palustris*, *Stratiotes*, *Arundo Calamagrostis*, *Cladium*, etc. Returned by the same way.

July 16. W. Mathews and I went to Cherry Hinton, but found very little in the way of plants.

July 28. A very dark day prevented the very large eclipse of the sun being seen.

July 29. Went to London and Bristol to attend the Meeting of the Archaeological Institute.

Aug. 1. Manning and I walked to Leigh Court and back. Very fine pictures there.

Aug. 4. Party by steamer to Chepstow, rail to Newport, omnibus to Caerleon. Cold collation in the amphitheatre, given by the Caerleon Archaeological Society. Walked from Caerleon to a church upon the hill top (Christ Church), where there is a stone effigy, to which miraculous virtues are, or were attributed.

Aug. 6. Went to Wells to visit W. T. Collings.

Aug. 7. In the morning I walked to Dulcot Church Hill, and found a singular branching thistle, allied to *Carduus acaulis.* (N.B.—Saw the same the next day at North Wootton, but cut down.) In the afternoon went in the carriage to Glastonbury, and visited the ruins of the abbey.

Aug. 8. Walked alone by Worminster and North Wootton into the East Sedgmoor; returned by Lancherley Cross and Woodford. In the evening went to a camp on the top of Mendip, and hunted for a Roman road, but could not find it.

Aug. 9. Walked alone to Wookey Hole and Ebber Rocks. Went up through the latter, which is a miniature and very inferior copy of Cheddar. In the afternoon by Castle to Lower Godney; returned over West Hay Moor, by Henton and Wookey. (N.B.—This moor seems well worthy of more examination).

Aug. 11. By coach to Bath. Bristol; by coach to Chepstow to spend a few days with Hort and his family at Hardwick House.

Aug. 12. Looked about the grounds and the banks of the Wye below them. In the evening went to Caldicot Castle, which is highly interesting from its finished architecture, combined with strength; and Caerwent, where much of the Roman walls exist.

Aug. 13. Visited the railway works, for the bridge over the Wye. Went to the top of the Bannager Rock, then below the cliffs opposite Piercefield, near Lancant. Along a footpath under the cliffs to near Penmoyle. Back by road.

Aug. 15. To Swansea.

Aug. 16. By coach to Tenby, by Llanelly and Carmarthen.

Aug. 18. Went to Giltar Head by the sands, on which I found a *Hieracium* like *umbellatum*, but perhaps different. Did not see the *Asparagus* at the Head. Along the cliffs to Lydstep Haven. Returned by Whitewell and Trelloyan (an old ruined mansion) and Holloway, where I saw *Inula Helenium.*

Aug. 19. Took lodgings at Mr. Clark, the grocer's. . . . Went to Scotsborough (a ruined mansion of no interest) and Gumfreston, where there is a curious church.

Aug. 20. Examined the marshes near Tenby, and found *Ranunculus confusus.* Followed the lane by the marsh side and up the Ridgeway from Holloway. Returned by Penally and the Burrows,

where *Triticum laxum* is in vast abundance, and quite erect. First evening meeting of the Cambrian Archaeological Association in the Assembly Rooms.

Aug. 21. Excursion to Penally, Manorbier, and Hodgeston. The church at the second peculiarly interesting. Made acquaintance with Mr. Freeman, the author of books on Llandaff, etc.

Aug. 22. Excursion to St. Florence (a curious church) and Carew Castle, and Church and Cross. Visited Gumfreston (church with an old sanctus bell—a very fine tower) where there is a chalybeate spring in the churchyard, closely adjoining another of pure water.

Aug. 23. To Lamphey Palace, Pembroke Castle, Monckton Priory, and Pembroke Dockyard.

Aug. 24. *Sunday.* Bishop of St. Davids (Thirlwall) preached an excellent sermon. Dined with Mr. Dillwyn Llewellyn, and walked to Giltar Head with Mr. Moggridge and Mr. Llewellyn's son. Saw the *Asparagus* at Giltar Head, or rather half-way between it and Lydstep Haven.

Aug. 25. Botanised during the morning on the south sands, and the marsh opposite Penally. On the rock near the sea there is *Polygonatum officinale.* The marsh is like the rough parts of the Cambridgeshire Fens, producing *Myrica Gale*, etc. Here is *Lastrea Thelypteris*, *Carex paniculata*, *C. Oederi*, and other deep marsh plants.

Aug. 26. The conclusion of the Archaeological Meeting.

Aug. 27. Went by coach with the Archaeological party to Hobbs' Point, and then in a government steamer, kindly placed at our disposal, to St. Davids. We landed at Solva. The Rev. Canon Melvile kindly gave me a hospitable welcome. We had not time to do anything that evening.

Aug. 28. Visited Penlan Castle, a curious earthwork, part Roman, part British. Then attended Freeman's lecture at and in the cathedral, and returned by the same mode of conveyance to Tenby. Fine weather both going and returning, and I was much pleased with the fine rocky coast.

Aug. 29. Went to Gumfreston and spent some hours with the Rev. G. Smith, the rector. His family gave me a few localities of plants.

Aug. 30. Went by Rowston and Roadwood to Saundersfoot, then along the coal-rail under Hean Castle to Wiseman's Bridge, and some distance up the valley there. Back behind Hean Castle to St. Issells, and then to Saundersfoot again, and by Griffithston, Hollybush, Daisy Bank, Ashridge, Cornish Mill, Scotsborough, Marsh House, Tenby. On the sands at Saundersfoot are the same plants as at Tenby. The valleys about St. Issells very pretty.

Sept. 1. Went to Penally to call upon the Rev. John Hughes, the vicar, and his brother, the Rev. Henry Hughes, of Manorbier. Afterwards went by Holloway to Gumfreston, and towards St. Florence; returned by Causeway Mill, on the bridge at which *Crithmum* grows beautifully. Mr. Mason wants me to edit an appendix of natural history matter for the "Archaeologia Cambrensis."

Sept. 2. Went by Pembroke to Stackpole Court (Lord Cawdor). Met Mr. Fox-Strangways there.

Sept. 3. Mr. Strangways and I were sent in a carriage to the Wash, and then walked along the top of the cliffs. Saw the Stacks, Bosheston Mere, Huntsman's Leap, St. Gowan's Chapel, and back by Bosheston.

Sept. 4. Mr. Strangways and I went to Cheriton Church. I went on to East Freshwater Bay, and then followed the coast by Grenala Point and Camp, Stackpole Quay, and Warren to Broad Haven, and back through the Park.

Sept. 5. Spent the morning in the Gardens. Afterwards went to St. Petrox and St. Twinnel's Churches, intending to visit a camp near Warren, but heavy rain came on and compelled me to take shelter in the porch of the latter church. Met Mr. Vivian of Swansea at Stackpole; he asked me to visit him on my return, as also had done Mr. Dillwyn Llewellyn.

Sept. 6. Walked by St. Twinnels to Castlemartin (the church very interesting) and examined a camp (perhaps Roman) near Warren by the way. Then behind Brownslade to a camp (perhaps British) at Warman's Hill. A little to the east of it there is a small square entrenchment. Returned by Warren.

Sept. 7. *Sunday.* Church at St. Petrox. Lord Cawdor shewed me a camp on a hill between two arms of the lake near Bosheston. It is very strong, and not in the Ordnance map.

Sept. 8. Went with Lord Cawdor to Cheriton Church, which is in the course of rebuilding. Walked to the rocks and St. Gowan's Chapel.

Sept. 9. Went with the Rev. James Allen to Pembroke, and then with him to his parsonage at Castlemartin.

Sept. 10. Met the Misses Mirehouse, and went with them to Angle, a curiously retired village at the mouth of the Haven. A chapel in the churchyard, old tower of house, etc. Parted from them and went to the North Hill, from which there is a most beautiful view. Returned by Pill, North Studdock, and the Green, to the Castlemartin Corse, which I followed to Castlemartin.

Sept. 11. By Kitewell, Woganstone, and Hentland to Pwllcrochan (Rev. Mr. Cartmell), to West Pennar, and along the south-west side of Pennar Water (mud and sand; plenty of *Statice Bahusiensis*) to Lambeath Mill. Returned by Wallaton Cross and Kitewell.

Sept. 12. To Linney Burrows and Down, camp on south coast, Pen-y-holt Stack (curious curved strata near to it), Flimston Chapel (now a barn), by Ancey's Down to Bosheston (Rev. W. Allen) back by the direct road at night.

Sept. 13. About Castlemartin. Called upon the Mirehouse family at Brownslade.

Sept. 14. *Sunday.* At Castlemartin.

Sept. 15. Went to the Industrial School at Warren. To Rhoscrowther and Bullwell, then by the ferry to Milford.

Sept. 16. To Haverfordwest, intending to go on to Fishguard, but found the coach gone. To the station for *Ranunculus tripartitus*, but too late for it. In the afternoon took a pleasant walk through some fields above Prendergast Church near the banks of the river.

Sept. 17. To Fishguard. Went to Goodwick Sands, then to Manorowen and back. Mr. John Fenton, of Glynamel shewed me a *Pyrus* (probably *torminalis*) in his grounds, upon the top of a rock. Took tea with him.

Sept. 18. Went along the coast northwards as far as Aberhesgwyn, then to Dinas Parsonage to call upon Mr. Thomas. He not being at home, returned by the turnpike road.

Sept. 19. Walked about Fishguard. Mr. Thomas called upon me. Returned to Haverfordwest.

Sept. 20. By mail to Swansea, and rail to Chepstow.

Sept. 21. *Sunday.* Dined and spent the day with the Hort family at Hardwick House.

Sept. 22. To London and Cambridge by railway.

Oct. 13. Went to London to be present at the conclusion of the Great Exhibition of Industry. Spent all the afternoon in the Exhibition.

Oct. 14. Also at the Exhibition. Dined with Lankester, and met Stanger, Huxley, etc.

Oct. 15. At the concluding form of the Exhibition. Returned to Cambridge.

Oct. 23. Newbould, Stratton, and I went to Newmarket. Walked by Saxon Street to Wood Ditton Park Wood, and returned from the Dullingham Station. We went in the hope of finding many *Rubi* in that wood, but did not do so. Nearly all plants were too far advanced to be of any use to us.

1852. *Feb.* 14. Went with Mr. Hamond to Pampisford Hall, and stayed with him until Monday, 16th, when returned to Cambridge.

April 14. To Loddon.

April 15. The Rev. J. J. Smith took me to Norwich. Attended a meeting of the Archaeological Society, and was introduced to Mr. Harrod, Mr. Fitch, and Mr. Johnson.

May 15. Mathews and I went by rail to Shepreth. Walked along the road to Foulmire, across Foulmire Common and Meldreth Common to the head of the brook, where there are several springs. The common is now become very dry, owing to the perfect drainage recently formed. At the spring-head we found the commencement of the Bran Ditch, which we followed as far as the line of the Icknield Way. We then turned towards the east along it, and leaving the track at Chrishall Grange, kept across the fields direct to Ickleton. The south-easterly point of the wood at Chrishall Grange is formed of *Laburnum*, and the turf under the trees seems rich in chalk plants. Returned to Cambridge by rail from Chesterford.

May 25. Botanical party to Gamlingay; forty-three in number.

June 2. Wauton, Stratton, and I went to Dullingham Station, then to the Devil's Ditch, along which we went to its southern end, where in the last field we found *Ophrys muscifera* in plenty, and in the ditch quite at the end *Veronica montana*. We then went to Ditton Park Wood, and returned to the railway station.

June 29. Went with Newbould by Quy Bridge, across Wilbraham Fen to Little Wilbraham, by Hawk Mill to Fulbourn, by Cherry Hinton Church, and home. The fen is now so much drained as to produce no plants of interest. On the western bank of the Quy water, above Hawk Mill, there was plenty of the *Ophrys apifera*. Between that place and Fulbourn, on the opposite side of a ditch, we saw *Rhamnus frangula*.

July 5. A very hot day. Thermometer here in the shade 85°, at Chiswick, near London, 97°.

July 15. Went to Peterborough, and so to Rugby.

July 16. To Nuneaton, and voted for Craven and Skipwith, the losing candidates for the county. Then walked to Bulkington, and returned by rail to Rugby.

July 17. Cambridge.

July 28. Went to Newmarket with Hort and Newbould. Walked by the avenue to Chippenham Park, and round the outside of it to the east. Found on the wall *Galium parisiense*. In the fields between Chippenham and Badlingham, we found *Apera interrupta* in tolerable plenty. Then to the gravel pit, where we found *Medicago falcata* and *M. sylvestris*, both apparently indigenous. In the brook just by the bridge is *Ranunculus Drouetii* (?). Then by Kennet Heath, and back to Newmarket.

July 29. To Snailwell Fen, and by Landwade and Exning back to Newmarket. To Cambridge.

Aug. 5. Went to Thetford, as a meeting of the Cambridgeshire Naturalists' Club; only Newbould and I went in the morning, but we were joined at dinner by Thurnall and Clarke. We two went by the turnpike road, through Elvedon, as far as a point opposite to Howlit's Hurst, then turned to the right, and crossed the heath on a course a little to the north of east, until reaching the line of the Icknield Way. Between this point and the Elvedon and Barnham road it is very manifest, in the usual depressed form of British roads. To the south of Albemarle Plantation we found plenty of the true *Thymus Serpyllum*, for the first time I believe that it has been found in Britain.

Aug. 9. Stratton and I went to Little Trees Hill, round the Park, and by Cherry Hinton.

Aug. 18. Mr. Borrer, his son Linfield, and daughter Isabella, having come yesterday, we went to Bottisham Fen, where he wanted to see *Viola stagnina*, now in seed.

Aug. 24. Stratton, Newbould, and I went to Dullingham Station. To the Devil's Ditch, and went along it towards the south-east as far as the end. Returned by Stetchworth to the same station. On the lower inner slope of the ditch between the railroad and Stetchworth, we found the true *Thymus Chamaedrys*, while on the main bank there seemed to be only *Thymus Serpyllum*. In the corn-fields on the footway, from the ditch-end to Stetchworth, we found *Atriplex erecta*.

Aug. 31. Left Cambridge, and reached Liverpool in the evening. Sailed by "Vanguard" steamer at 11.30 p.m.

Sept. 1. Reached Belfast, after a tolerably pleasant passage, at 1.30 p.m. Was invited to the house of W. J. C. Allen, Esq., 8 Wellington Place, and very hospitably received by him. First day of British Association Meeting.

Sept. 2. Dr. Dickie took Dr. Arnott, Balfour, and myself to a hedge by the road-side, one-and-a-half miles before reaching Holywood, and shewed us *Rosa hibernica* in plenty.

Sept. 3. Breakfasted with Professor W. P. Wilson.

Sept. 4. Mr. Whitla took Dr. Walker-Arnott and me to Colin Glen, and shewed us *Equisetum Mackaii* in the open ravine above the waterfall and plantations. It is plentiful on both sides of the stream. The *Aspidium lobatum* and *aculeatum* are peculiarly fine. Saw many *Rubi* on the way to and from the glen, but had not time to examine them.

Sept. 5. Went by railway with Wilson, Stokes, etc., to Armagh; dined with Guillemard of the college there. Returned at night.

Sept. 8. Went by car with Adams, Stokes, Wilson, and four ladies to the Giant's Ring (a cromlech, surrounded by a large space,

enclosed by a lofty earthen embankment). The farmer told us that some years past he used a subsoil plough in the area, and found it to be full of interments; and that under the cromlech there was a Kistvaen. We then went on to the Round Tower at Drumbo, of which only the base is standing. There are traces of a small church having been by it. Returned by car to Shaw's Bridge, and then walked along the banks of the river Lagan to Belfast. The whole of this district is very beautiful.

Sept. 9. Started at 9 a.m. by rail, with a large party (150) for Antrim. Went in a line of forty-eight cars through the town to Shane's Castle. Newbould and I examined the shore of Lough Neagh, west of the castle, below the cliff, and found *Agrimonia odorata* and *Arundo stricta* in plenty, but both of them rather too far gone into seed. Returned to the town and were shewn the beautiful Italian grounds of Massareene Park by his Lordship. He then gave us a most excellent lunch. Then went to the landing place on the Lough, and also to the Round Tower, said to be the most perfect in Ireland. Walked about the upper end of the town, and returned to Belfast by rail.

Sept. 10. Left Belfast at 10 a.m. by railway to Carrickfergus with Newbould. Went on by car through Larne and Glenarm to Cushendall, where we arrived at 6 p.m.

Sept. 11. Walked up the north side of Glenariff as far as the fork of the river, then went to the waterfall, which much resembles on a smaller scale that at High Force in Teesdale; then up the south side of the valley to its head. Returned down the south side to the sea. Returned to Cushendall by the old road. Found several *Hieracia* and *Rubi*.

Sept. 12. *Sunday.* Took a short walk to the sea shore. Cushendall.

Sept. 13. Went to Garron Point, but found no plants of interest there. Lost Newbould for three hours.

Sept. 15. Newbould left for England. I went with Stokes, Adams, and Wilson to Carrick-a-Rede, but did not cross the bridge. Left them and returned alone near the coast to Ballycastle.

Sept. 16. Went by the coast to Fair Head. Ascended the cliffs near the head, and went along the top of them over the highest part. Descended by the Grey Man's path, and went over the rocks at the foot to Murlogh Bay. Returned to Ballycastle by the inland road. A very fine day, and the views both near and distant beautiful.

Sept. 17. Went to Bushmills. Visited the Causeway, and walked along the top of the cliffs for some distance towards the east. No rare plants.

Sept. 18. Went to Ballintrae, a very pretty little port and bathing place; then to Dunluce Castle, which I saw without a guide.

. . . . . A little beyond the castle there is a high point jutting out into the sea from which the view is beautiful, and the white rocks near to it are most curiously formed. Went on along the new road to the sand hills at about a mile from Port Rush, then turned inland by a road that crossed that from Coleraine, at right angles near Beardiville, and returned by the latter to Bush Mills. Near the chapel there is an interesting ravine through which the river flows, and a pond occupying a hollow formed apparently by a sinking of the basaltic stratum. Near the upper bridge on the left as you approach the town are some fine rude and massive basaltic columns. Found a *Thalictrum* on the Port Rush sands in plenty in one small spot, also a *Violet*, apparently *V. lutea amoena* in the same place, but generally diffused over the sands. Saw no other plants of interest. A beautiful and interesting walk.

Sept. 20. Went by public car to Coleraine, a neat town. Stayed there about two hours, and then went by coach through Ballymoney to Ballina, and by rail to Belfast.

Sept. 23. To Cambridge.

Nov. 13. After a long continuance of wet weather, and two whole days rain, with a northerly wind, the river rose higher than it had done for many years. It reached the lower edge of the fifth stone below the cornice on the east side of the western arch of St. John's bridge, was over the road at Newnham, so as to stop foot-passengers, over the footpath behind Trinity Walks, over the stone-work of the new sluice at Jesus Piece. My bedmaker, living in the last house in Fisher's Lane near the great bridge, had two feet of water in her house.

1853. Did not sleep away from home during the winter, the earlier part of which was singularly mild. The month of March was on the contrary more than usually cold, with heavy falls of snow.

May 5. Hiley and I went to the station of *Muscari racemosum* at Cherry Hinton, and found plenty of it in flower.

May 10. First meeting of the Cambridgeshire Naturalists' Club at Brandon. Carter, Newbould, and I started in the rain, and were joined at Ely by Marshall. We breakfasted at Brandon. We took the Norfolk side of the country. Turning to the left at the forking of the road, just after passing the railway, we examined with success the hedge banks, etc. Turning again to the left we passed through the firwood, and across the open fields to the point where the Hockwold road crosses the Foss. (The Foss was not a road but a boundary line similar to those in Cambridgeshire, with the ditch on the eastern side.) Then went northwards along the latter to where the Lynn road crosses it at about the eighty-first milestone. Returned along that road and visited the old castle at Weeting, which is the rather extensive remains of a moated tower with slight outworks.

It is not very ancient. It had a vaulted ground floor, having the chief room or hall above it. We also examined the church of All Saints, which seems to have been originally Early English, with a Decorated chancel, the whole much altered by the insertion of late Perpendicular windows. There are very slight remains of the old church of St. Mary. . . . In the early part of our walk we noticed many of the same plants as are found at Gamlingay, such as *Teesdalia*, *Sisymbrium thalianum*, *Arenaria tenuifolia*, *Vicia lathyroïdes*.

May 16. Henslow's party to Thetford. I started with a party of eighteen and reached Thetford an hour sooner than Henslow, who came from Hitcham. In that interval we visited the Danish fort, and looked at the banks of the Thet river, near to the town, on the Norwich road. We then went up the Elvedon road, and found *Veronica triphyllos* in the allotment grounds and also beyond them on the right hand side of the road. Turning to the right we examined the plantations, and crossed the Warren until we arrived at the river Ouse, going back along it, and the road to the town. My party had here left Henslow's party behind, and went up the Bury road as far as Place Farm, returning by a footpath between the two rivers. Back by train to Cambridge.

May 27. Went to London to a meeting of the Council of the British Association of Science, and returned in the evening.

May 30. Hort and I went to Denver to spend a few days with W. H. Stokes, the new rector. Went to Denver Sluice, crossed the old Bedford river, and walked up the south side of Well Creek as far as the first lane in Nordelph, which we followed to its end, and then by footpath to the Bedford river bank, returning along it. Between the above mentioned lane and a windmill we saw the traces of the Fen road of the Romans, in the form of a ridge crossing a ploughed field. In the ridge there is plenty of flint gravel, none of which is to be found elsewhere within a long distance. A middle aged labourer in the field told us that his grandfather had told him of a gravel road having been found on the line. In Well Creek we saw *Potamogeton praelongus*, and in the ditch by the footpath beyond the above-mentioned lane *Potamogeton flabellatus*. In the afternoon went along the lanes to Stone Cross (where there is the socket of a cross remaining), where I suppose that the Fen Road and Akeman Street crossed each other. The former seems to have followed the lane westwards from the cross, and may apparently be traced in the field leading towards Bexwell.

May 31. Drove through Fordham, Hilgay, to Southery, and went down to the fen beyond Little London. The water of the late memorable flood had just left this part of the fen, but still continued upon the lower parts beyond. Vegetation was just commencing on the land. On the return went to the entrance to Wood Hall, and walked along the lane which goes round the north-east angle of

Hilgay Island. At Shore Hall are some monastic remains in a farm house, presenting a picturesque mass of domestic buildings on the side next to the road.

June 1. Went to call upon Thurtell, the rector of Oxborough. Passed through Downham Market by Benwell, Crumplesham, Stradset, and Fincham to Barton Bendish, where there are two beautiful churches. In the western church there is a singular Norman door, and under the small piscina, a double one is placed in the floor. Followed a grassy lane to the south end of the Devil's Dyke. Examined it as far as the point where the Roman road probably crossed it, and saw its continuance for a considerable distance. It was a boundary line similar to that near Brandon, not presenting any trace of a road. Much of it is destroyed by the plough, and by the filling up of the ditch to level the ground. Ditch towards the east. Bank about seven feet high without the ditch, which seems to have been shallow. There is a difference of several feet in the level of the country, along its line, the west being the higher district. Passed by the three churches at Beechamwell, and examined a nice piece of fen land on the way to Caldecote. It is rich in *Carices* and other fen plants. At Caldecote is a remarkable mound, surrounded by very aged pollarded elm trees, which was the site of the church. Thence to Oxborough; returned by Stoke Ferry and West Dereham.

June 2. Measured a large horsechestnut tree in the grounds of West Hall at Denver; at four feet from the ground, five-and-a-half feet in diameter. The house has an old and singular gable with inscriptions in panels. Walked through winding lanes to the right of the sluice-road to the common, crossed it, and passed through fields with fine oak trees, across the railway to the North Mill on the Catchwater, then along its bank to Stone Gravel Mill, and returned by Fordham. Returned to Cambridge.

June 7. The Cambridgeshire Naturalists' Club met at Royston. Hort went with me as a visitor, and we took the early train at 7 a.m. Nobody else went so early, and we, after breakfasting, went along the Icknield Way, westwards for about a mile, and then by a footpath passing Limbury Hill to Litlington. Then to Bassingbourn, Kneesworth, and back to Royston. It was very hot during the latter part of this walk. After resting for a short time we went towards Barley as far as the neighbourhood of Burloes Hill, and found there *Fumaria Vaillantii*, *F. parviflora*, and *F. micrantha* in the fields. After dinner we visited, with the other members of the Club, the cave under the cross in the town.

June 21. Stratton and I went to Gamlingay. We went over the old pond, the bit of bog above it, and part of the heath. Also the brick pits, and some ground near the brook on the way to Potton. I made a list for the "Flora." On the way back we spent an hour at Eltisley, and I made a list.

June 23. Went in the afternoon with Carter, in his gig, to Shudy Camps, and made a list of plants there.

July 5. Cambridgeshire Club Meeting at Ely. Mr. Marshall took us to the West Fen, which is now nearly all under cultivation. Afterwards we had a barge and examined the Clay Pits, Roswell Hill.

July 12. Left home, and reached Chichester in the afternoon to attend the Meeting of the Archaeological Institute, beginning this day. I was lodged by Dr. N. Tyacke in North Street.

July 13. Willis lectured on the Cathedral. A party at the Bishop's.

July 14. Went with the Sussex Archaeological Society to Borgrove Priory, Halnaker House, and Goodwood. I did not go into the latter, but attempted with Dr. Tyacke to go to the Roman camp on the hill, but was driven back by torrents of rain.

July 15. Looked about the city in the morning. In the afternoon went with Dr. and Mrs. Tyacke to West Wittering to look for *Matricaria maritima*, but only found a few bits of what may be it. Walked along the coast as far as East Wittering; at about half way found, in a damp field behind a hedge of *Tamarisk*, *Lythrum Hyssopifolia* in small quantity on a restricted spot. At East Wittering, on the bank on the left going to the sea (behind it), I found plenty of *Sagina ciliata* apparently.

July 16. Excursion to Pevensey. The early part of the day was wet, but it cleared up on our arrival at Pevensey, and gave us an opportunity of examining the fine Roman walls of the old town. All passed off well.

July 18. Dr. Tyacke took me to see a part of the outer line of fortifications to the north of the city. Their extent renders them very unintelligible. What I saw was a lofty bank and an external ditch.

July 19. The Meeting concluded this day with a determination to hold the next at Cambridge. Dr. Tyacke took me and Franks and Hill to Bosham, to see the Saxon tower and chancel-arch of the church.

July 20. Bath.

July 21. Walked by the canal, and noticed that the *Potamogeton* which formerly gave me so much trouble is the *P. flabellatus*. Saw no fruit or flowers of it.

July 29. Walked over Lansdown, by the Lansdown Road to Upton Cheyney; in the upper part of this road, both before and after the fences commenced, there was plenty of *Thymus Chamaedrys*; returned by North Stoke and the Bridle Road to Weston, on the line of the old Roman Way.

July 30. Returned to Cambridge.

Aug. 2. Cambridgeshire Club at Newmarket. Walked by Chippenham, going round the Park, and back by Snailwell.

Aug. 8. Walked through Girton and Oakington to Long Stanton, and nearly to Rampton; returning by Cuckoo Lane and Histon.

Aug. 15. By Huntingdon Road to Dry Drayton; on way back went round the outside of Madingley Park, to west and south, and by Chalk Pit and Moorbarns thicket.

Aug. 22. Round Madingley Wood, and across the fields from Moorbarns to the Huntingdon Road.

Aug. 29. By Comberton footpath to Barton; back by British Way and Grantchester Lane.

Aug. 30. Went by train to Waterbeach, then by Middlehill Drove to Upware Ferry; returning by the north side of the river to Clayhithe Lock, then to Horningsey to dinner, and home in the evening.

Sept. 1. Stratton and I went by rail to Wimblington. We went into Doddington Wood, then through Doddington (where the very neat gardens before the peasants' houses surprised us as containing new and rare plants) to the Turf Fen, and by Carter's Bridge to Chatteris; returning by rail from there. Doddington Wood is a place that promises much at an earlier time of the year. Also the Turf Fen is likely to prove rich in June. In a field to the right of the road, at a short distance beyond Carter's Bridge, on the way to Chatteris, we found *Chenopodium ficifolium*, *Atriplex erecta*, and *A. deltoïdea*.

Sept. 6. Newbould and I went by Peterborough and Milford Junction to Hull for the meeting of the British Association.

Sept. 7. Commencement of the meeting. I walked with Newbould about a mile beyond the town on the Hedon Road, and then returned for business.

Sept. 8. Took the Chair of the Section (D) as President for the first time.

Sept. 10. Detained at Hull by the Committee of Recommendations.

Sept. 11. *Sunday.* At church, at the fine Trinity Church. The nave used, and the choir empty.

Sept. 14. Went to see the new Victoria Docks. Afterwards crossed the Humber at Hessle to Barton, and saw the church of the latter. Walked to New Holland, where I recrossed the river in the evening.

Sept. 15. Excursion to Beverley and Flamborough Head. At the former saw Crosskill's manufactory of agricultural implements. . . . Also the Minster.

Sept. 16. To York. Quartered with John Phillips, but bed at Mr. Baines', in the garden of Philosophical Society. Spent the morning with James Backhouse, jun., in the examination of *Hieracia*; also went to see his new garden.

Sept. 17. Also with J. Backhouse, similarly employed. Dr. Andrews, Mr. Thompson of Belfast, and Mr. Grove at Phillips'.

Sept. 19. Walked round the city with Sir W. R. Hamilton and J. Phillips, and visited several of the churches.

Sept. 20. Returned to Cambridge.

Oct. 3. Newbould and I went to Wisbech. A most beautiful day. We walked by the Sutton turnpike road . . . then along the old drain to Foul Anchor, where we looked for the plants recorded to have been formerly found there. The salt marshes have quite vanished, and therefore very few of the plants remain. We saw *Lepigonum marinum*, *Bupleurum tenuissimum*, *Aster tripolium*, *Glaux*, *Plantago coronopus* and *P. maritimus*, *Scirpus maritimus*, *Sclerochloa distans* alone, of those recorded by Relhan. We went up the Shire Drain to Tydd Gout, and returned along the line of the Roman Bank by Newton to Leverington, and then to Wisbech. At both Newton and Leverington we saw *Althaea* by the water-side plentifully.

Oct. 4. Day fixed for the Naturalists' Club Meeting. Only W. Marshall came. Newbould and I called upon Mr. Algernon Peckover, and he went with us to the museum. At noon Marshall arrived, and we went along the east side of the great river for one-and-a-half miles; then turned inland, Walsoken, and reached Wisbech by the Lynn turnpike road. The "sides" of the river are so much altered that most of the characteristic plants are lost. We then went up the Wisbech Canal to Elm, and returned by the other bank of it. Back to Cambridge.

Oct. 7. Went to visit Lingwood at Lyston in Herefordshire.

Oct. 8. Went to Hereford. Saw Dean Dawes, and was shewn by him over the library of the Cathedral; in a very bad state. All the books fastened by chains, many apparently curious. Also visited the Cathedral.

Oct. 9. *Sunday.* At Llanwarne Church.

Oct. 10. To Ross, and spent some hours with W. H. Purchas in examining his plants.

Oct. 12. Lingwood, Purchas, and I walked to Treago, and afterwards to Pencoyd, where we got *Aspidium spinulosum* and *Equisetum hyemale*.

Oct. 13. To Orcop Hill.

Oct. 14. In the carriage to Kilpeck Church, which has been recently and nicely restored.

Oct. 18. To Bath.

Oct. 20. Walked along the canal by Hampton and Claverton, past the Aqueduct to Brass Knocker Hill, then by Coombe Down and Prior Park. Explored the valley behind the Old Widcombe Church. Failed in finding any fruit of either *Potamogeton flabellatus* or *Sparganium*, owing to the weeds having been removed from the canal.

Oct. 21. Spent the morning with the Fowlers.

Oct. 22. Returned to Cambridge.

Dec. 29. Thermometer at 5° last night. The river frozen over.

1854. *Jan.* 2. Thermometer 5° at the New Botanical Garden in the past night.

Jan. 3, 4. The snow was so deep as quite to put a stop to all communication with London on these days.

March 6. Elected a member of the Athenaeum Club in London.

April 7. Overton, Hiley, and I went to the Gogs. We saw *Anemone Pulsatilla* in full flower, but nothing besides it. The season had been remarkably dry.

May 20. Went with a small party, Sprague, Stuart, Garland, and others to Dullingham, Wood Ditton, Saxon Street, and Newmarket to botanize. No plants of much interest found.

May 31. Went with Henslow and his class to Ely by the rail. Mr. W. Marshall met us, and conducted us by the lane to the outlet of Rossall Pits. There we obtained a barge and navigated the pits in all directions, finding many interesting aquatic plants. *Potamogeton praelongus* was growing in the pit in small quantity. We then went to Turbotsey, and gathered *Ophioglossum* in the meadows. Returned to Ely by the road above the Chalk Pits. Dined at the "Lamb." Afterwards visited the Cathedral, and went back to Cambridge.

June 5. Went by rail to Meldreth, and walked by way of Whaddon to the "Hardwicke Arms" at Arrington, where Newbould met me. Walked by Arrington, Croydon, Clapton, to near Tadlow Tower; returning by the "Downing Arms," by footpath to Clapton, up Croydon Hill to the Upper Hamlet, to the church, and back to "Hardwicke Arms."

June 6. Cambridgeshire Naturalists' Club. No member arriving to join us at an hour after the time fixed, we went through Wimpole Park, and to the Mare Way, on the Eversden Path, then to Eversden Wood, Great Eversden Manor House, by footpath to Little

Eversden, and to Comberton. Dined with Newbould there, and walked to Cambridge in the evening. Obtained no rare plants, but did good work in making lists.

June 7. Way and Hill with me about the Institute Meeting.

June 13. Went to Denver to visit W. H. Stokes. Walked to Downham market.

June 14. Stokes drove me to Nordelph, going through Downham, then along the road by London Lode, and on as far as Welney, where there is a nice new church. By the side of the London Lode at one-and-a-half miles from Nordelph, I saw traces of the Roman Fen Way marked by the yellow colour of the crop; and in the next field (pasture) by a well-marked ridge about fifty-two feet wide, with a depression upon each side. We returned by the same lode. An old man working at the drain opposite to where I saw the last part of the road, said that he remembered hearing of a gravel road on that site many years since, and that it was not the former track by London Lode. To the south of the angle in the lane leading towards the south from Stone Cross, there seems to have been an old lane, and a rather raised ridge on one side of it. It extends into Riston Park for some distance, in the probable course of the Akeman Street.

June 15. Went to Denver Common (by the road to the railway) and gathered the supposed new *Batrachium*, also *Ranunculus hirsutus*.

June 17. Returned to Cambridge.

July 4. Commencement of the Meeting of the Archaeological Institute at Cambridge.

July 7. Excursion to Bury St. Edmunds by railway. I addressed a few words to the party from the bank of the Devil's Ditch. From Bury we visited Hengrave Hall and Little Saxham Church, having missed by a blunder two other places laid down in the plan of the trip.

July 8. Excursion to Audley End and Saffron Walden by railway and back. Dined with a large party at the Lodge of Jesus College. This morning I addressed the Section of Antiquities for forty-five minutes about the Fens and other parts of the county in ancient times.

July 10. Excursion to Ely. Lunch at the Deanery. E. Sharp described the Cathedral. Dined with W. Marshall.

July 18. Cambridgeshire Naturalists' Club. Messrs. Gibson and Clarke met me. Examined Doddington Wood, passed through that place to the Turf Fen, which was very dry, and so not productive. Went up Vermuden's Drain to the first cottages, and down to Twenty Foot, going by it to Chatteris.

July 20. Went to Pampisford Hall this morning; in the afternoon walked to Babraham and saw the gardens, and returned to the Hall.

July 21. Mr. Hamond brought me back to Cambridge.

July 27. Professor Henslow brought 280 of his parishioners to visit Cambridge. They arrived early in the day, walked over the place, dined, and had tea in Downing College Hall and Combination Room, and returned in the evening. I led the party under Henslow's orders.

Aug. 8. Cambridgeshire Naturalists' Club Meeting at Balsham, but I only of the members attended. I posted there with Liveing and Sprague as my companions. We went to the "Bell" Inn. Visited the beautiful church, of which the tower is singular from its buttresses. We went to and through Balsham Wood and Borley Wood, then about a mile along the Woolstreet towards Cambridge, and back across the fields to Balsham. After dinner we went to the Balsham Ditch at Oxcroft, and as far as a little brook beyond it.

Aug. 9. Went to Lowestoft with Newbould.

Aug. 12. Gathered *Urtica pilulifera* and *Centaurea Calcitrapa* on the sands by the lower town (both plentiful there), lunched with Dr. Whewell, and went with him to the church. Returned to Cambridge.

Aug. 21. Went with Sprague to Waterbeach by rail, walked by the river side to Upware Ferry, and returned by Middle Hill Drove. Dined at Horningsey. Walked to Cambridge.

Sept. 7. To Lichfield to spend a few days with my cousin T. G. Babington.

Sept. 9. Went to Etocetum and saw, in the field below the church, traces of the ancient wall, and in the walls of a farm-yard on the opposite side of the road with the church, some very fine courses of Roman wall of chiselled stones.

Sept. 11. From Lichfield to Chester and Mold by railway, then by coach to Ruthin, for the Meeting of the Cambrian Archaeological Association.

Sept. 12. By the old road to Mold, to Y-Foel-Fenlli, a very extensive hill fort with strong double trenches, and in some parts treble; two approaches, one from Bwlch-pen-Barras, one from Bwlch Agricola, the former the chief one. Then went along the hill tops to Moel Famma, upon which there is a ridiculous tower. Then to Moel-y-Gaer, a small but strong hill fort. Descended by Fron Ganol, Hirwyn, and Glybtir to the river Clwyd, and along the fields back to Ruthin. View from the hills beautiful. Saw the true *Pyrus Aria* on the descent from Moel-y-Gaer. Also the *Arctium majus* and *tomentosum* in several places.

Sept. 14. Spent in the town. A curious mill of the 14th century, church, castle, etc. The castle much ruined and altered to form the site of a modern house.

Sept. 15. Visited the church of Efenechtyd, the inscription in Pool Park, and many circles on the hills about Bedd Emlyn.

Sept. 16. To Llanrhaidr, Denbigh, and St. Asaph. Lunched with the Bishop.

Sept. 17. Freeman, Basil Jones, and I walked to the camp, Y-Foel-Fenlli. Dined with Mr. Turnor, agent to Lord Bagot.

Sept. 18. To Valle Crucis and Llangollen.

Sept. 19. A wet day for the most part, taken up with meetings and the museum.

Sept. 20. Left Ruthin for Liverpool to attend the Meeting of the British Association. Took lodgings (with Ramsay). Dined at the Town Hall with the Mayor.

Sept. 23. This evening Professor Ramsay and I went to Manchester, to Mr. Ormerod's house, Adelphi Terrace, Salford.

Sept. 25. Returned to Liverpool for the rest of the meeting. "Red Lion" dinner at the Waterloo Hotel; much too grand, long, and expensive.

Sept. 27. Dined with Dr. Dickenson.

Sept. 28. Left Liverpool for Shrewsbury. Spent half the day with Leighton.

Sept. 29. To Birmingham, to the house of W. Mathews, jun., Edgbaston House.

Sept. 30. Went to Bewdley and Wyre Forest; Lees, and a Mr. Thompson, and Mr. Jordan joined us. Forest all low wood. Full of *Rubi.*

Oct. 2. To Clent Hills and Hagley Park.

Oct. 3. Left Birmingham for Mr. E. A. Freeman's house at Dursley, where I arrived. Walked with him to Uley Bury, a very extensive fortification, taking up the whole top of a peninsular abrupt hill. Entrances at the south, east, and north angles, or rather just close to them. North angle strongly defended by two ditches, and ramparts crossing the neck. Also further on to a tumulus called . . .

Oct. 4. Walked over Stinchcombe Hill to Drakestone Camp, which is not a camp, but a small space separated from the rest of the Down by five or six parallel banks and ditches. Descended by Stancombe to N. Nibley; ascended to Nibley Knoll, and to Blackenbury Ditches; two fine ditches and trenches extending quite across the hill, and one following its brink. Descended into

Spancombe Bottom, by Fordingbridge; ascended to Break Heart Hill, and descended upon Dursley. Saw *Hordeum sylvaticum* and *Epilobium angustifolium* plentifully in the woods.

Oct. 5. Went in Freeman's carriage to Malmesbury. On the way we visited a large barn, built in 1300, with a tower over each porch, at Caldecot. Also Beverstone Castle. At Malmesbury the chief objects are the market house, church, and the porch of a hospital (?). Tetbury is full of fine 17th century houses, and has a fine spire.

Oct. 6. Went alone in the morning to measure Uley Bury.

Oct. 7. Went to Slimbridge, and saw the coloured ball found there, which is drawn in the "Archaeological Journal." Then to Wanswell Court; an old house of Perpendicular style, now a farm. Hall interesting. Then to Berkeley Castle, and fine Decorated church.

Oct. 9. Walked over Stinchcombe Hill, by Nibley Green and Starveall Farm to castle in Michael Wood, which is perhaps the site of a mediaeval house. Then to Tortworth Rectory. Saw the church, and an enormous chestnut tree in a garden by the church, which is said to be the celebrated one, although not placed in the spot marked on Ordnance map.

Oct. 10. Went in the carriage to Leonard Stanley, where there is a fine cross church, and remains of other monastic buildings. Walked back to Frocester, and saw the old barn and small church. By Frog Lane to Silver Street, between which places we saw traces of an ancient, perhaps Roman Way. By Ashmead and Cam Church home.

Oct. 11. Left Dursley for Bath.

Oct. 13. Went to Englishcombe, which is full of Elizabethan houses, and has a barn, perhaps of the Perpendicular period. Church with central tower, but no transepts. Examined the Wans Dyke near Englishcombe, and the fort near the village. Returned by Twerton.

Oct. 14. Went to Odd Down, and traced the Wans Dyke along a stone wall.

Oct. 18. Breakfasted with Dr. Falconer. Dined each day, except Sunday, with my uncle, Dr. Whitter, at 17, Lansdown Crescent.

Oct. 19. Left Bath, and returned to Cambridge. Went for the first time to the Athenaeum Club, on my way through London.

1855. *March* 9. Went with the Rev. S. Banks to his Rectory house at Cottenham.

March 10. Walked with him to the banks of the Old Ouse, at the new steam-mill, along the banks to High Bridge, thence by

Mare Way to Balsar's Hill, Rampton (note that the square entrenchments enclosed the ancient residence of the De Lisle family, the Giant's Grave is behind it in the form of a long mound covered with brushwood), and back to Cottenham. Returned to Cambridge.

May 23. Went with Henslow and a small party for a botanical walk. By rail to Dullingham Station. Walked by Shuckburgh Castle, where there are some promising gravel pits with furze bushes, etc., to the great road half-a-mile to the west of Lordship farm, along the road as far as the Devil's Ditch; along the ditch as far as Stetchworth House plantations, to Dullingham and station, and by rail home. The season exceedingly backward, at least a month less forward than is usual. The farmer is destroying the ditch for a distance of fully half-a-mile from the toll-gate towards the south.

June 8. Stratton and I went by rail to Waterbech and then into Bottisham Fen. Vegetation very backward. We went up the fen to the south of the Lode, nearly as far as its extremity; then crossed the Lode, and went to White Fen. Returned by Horningsey. We found only one root of *Viola stagnina* with flowers, and apparently the others were not far enough advanced. On Fen Ditton Church we saw *Asplenium Adiantum nigrum.*

June 11. Went to Hatfield, where the Rev. R. H. Webb met me, and took me to his parsonage at Essendon. Went to see Mr. Dimsdale's arboretum of pines, and also took a walk round the neighbourhood. Met the Rev. Mr. Prescott of Digswell, Mr. Powys, and Mr. Church, junr.

June 12. Drove to Hatfield. Walked through the park, and saw the ancient garden laid out in yew-tree walks, called "The Vineyard." Left the park at the north side, and went by Legge's farm, near to which we found a *Ranunculus* by the lane near Allimore Hall, then along new line of railway, towards the Great Northern Railway. Found in a wood plenty of *Turritis glabra.* Crossed the Great Northern Railway to Sherrard's Park Wood, which we traversed in several directions. Left the wood near Ayot Green, and passing through part of Brocket Park, reached Lemsford Mills. Then along the meadows on the east bank of the river Lea to Stanborough, near which we saw another fine *Ranunculus* in the river. Returned by the road to Hatfield, and back to Essendon.

June 20. Cambridgeshire Naturalists' Club at Six Mile Bottom. Went to Allington Hill, across the fields by Upper Hare Park, to Four Mile Stables. By road to Spring Hall, Bottisham, across the fields to Temple Wilbraham, back to "Green Man." Found in a field between the Spring Head at the Temple and Streetway Hill, one plant of *Bunium Bulbocastanum*, also *Fumaria parviflora.* In the field below the south side of Allington Wood grew *Fumaria Vaillantii* and *F. micrantha.* Also went half-a-mile along the Chesterford road, then turned to the left, and examined a new and an old

plantation. At and about the former we found *Herniaria glabra*, in the latter *Cineraria campestris*. In the field opposite to the inn at the station we found *Alyssum calycinum*. At the point where the Streetway crosses the road that passes along the north-east side of Little and Great Wilbraham, it becomes only a field track, open upon one side for a short distance, and seems to be little used. This piece of the supposed Roman Road presents a manifest continuity, such as might be expected if it is justly believed to be Roman.

July 4. F. Townsend being here, I went with Newbould and him in a fly to Little Abington. Walked to the Hildersham Furze Hills, finding on the first *Phleum Boehmeri*, and on the last *Hypochaeris maculata*, besides many other plants. Returned from the southernmost of the hills by their north-east side, along the edge of long, anciently enclosed meadow, until we arrived at the road from Bartlow to Hildersham, then by the road (crossing the river Bourn at Little Linton), and meadows to Linton. Dined at the "Swan," and returned home.

July 6. Townsend and I went by rail to Long Stanton; then walked by Aldreth Bridge to Haddenham, Wentworth, Witchford, and Ely. Returned home by rail. The country very bare and dry. Found no plants of any special value.

July 10. Went to the old chalk pit at Haslingfield with Stratton, and found plenty of *Aceras anthropophora* on the broken slopes at the far end of it.

July 19. Joined Mr. Webb and Mr. Powys of Hertfordshire at the railway station, and was joined at Ely by the two Messrs. Church of the same county. Went to Thetford to shew them the peculiar plants found there. The morning was very wet, but it cleared up in the afternoon. Took only a short walk towards Elvedon, but found all the plants that we expected.

July 26. Went to Gamlingay with Stratton and Hiley; visited the heath, the edge of White Wood, the site of the bogs, etc. In a lane by the sand pit on the Potton Road we found *Filago apiculata*, and also the same plant in the road near the site of Old Hall. The bit of bog that had remained until 1853 was now drained.

Aug. 1. Hiley, Stratton, and I went to Newmarket, and by fly to Chippenham. Walked through Isleham plantation, to the edge of the county at Freckenham, up the brook half back to Chippenham, across the fields to Badingham, back by road to Chippenham gravel pit. Returned to Newmarket by the east side of the park and along the avenue.

Aug. 3. Hiley and I went to the Gogs and Cherry Hinton. Found a plant of *Lactuca virosa* in the chalk-pit close.

Aug. 6. Left home.

Aug. 7. To Shrewsbury . . . for the meeting of the Archaeological Institute.

Aug. 8. Went with the excursion party to Wroxeter, Wenlock, and Buildwas.

Aug. 10. Went to Ludlow with the party. Dined with the Mayor of Shrewsbury in the evening.

Aug. 11. Walked to Haughmond Abbey.

Aug. 13. Excursion to Llangollen. The boat on the canal failed in its work, and we were thus much delayed.

Aug. 15. Left Salop by rail to Bangor.

Aug. 16. With Rev. J. Earle to Llanberis. Went up the pass, and gathered *Arctium pubens.* Saw plenty of *Epilobium obscurum,* but no *E. tetragonum.*

Aug. 17. We went to the top of Snowdon, and then examined the base of the cliff of Clogwyn-ddu'r-Arddu.

Aug. 18. Ascended by Cwm Patric to Llyn-y-Cwm and Twll Du.

Aug. 19. *Sunday.* Afternoon service in the school-house.

Aug. 20. We spent the whole day in the valley, and went round the lower lake, examining plants all the way.

Aug. 21. We went to Dinas Dinorwig, an exceedingly fine and strong work of earth and stones.

Aug. 23. Walked along the old road towards Carnarvon, as far as Bryn Bras. Then ascended Caer-careg-y-tran, and carefully examined it. It is an ancient walled fort of the British period.

Aug. 24. A wet day. Only got as far as the other side of the lake to gather some *Rubi.*

Aug. 25. Left Llanberis. Went by way of Chester to Ludlow.

Aug. 27. Went by rail to Newport (Mon.), Llanelly, Cross Inn, and in Lord Dynevor's carriage to Llandilo Fawr. The meeting of the Cambrian Archaeological Association commenced. Had a bed at the house of J. L. Popkin, Esq., for a week.

Aug. 28—*Sept.* 1. Went all the excursions with the members. Found under the monumental stone at Glan Sannan a plant of *Agrimonia odorata.* Went with H. Longueville Jones to Cardiff, and by packet to Bristol.

Sept. 2. *Sunday.* Spent the day with H. Longueville Jones and his family.

Sept. 3. To Cambridge.

Sept. 20. At this time there were no undergraduates dining in the College Hall. An almost unheard of event. Hiley, Stratton, and I walked from Waterbech Station by the river-side to Upware,

then by Spinny Bank to Wicken Fen. Spent a long time in the rough fen, leaving it by the ditch side next to Burwell Fen. Went to Wicken Church; returned through the main street, by Spinny Abbey, Padney, and Fordey to Barraway, by river bank to Ely. Too late in the year for many plants to be obtained.

1856. *March* 24. *Easter Monday.* To London.

March 25. To Newport (Mon.). E. A. Freeman met me there, and he and Mrs. Freeman took me to Caerleon. We went to the camp on the hill, called Lodge Farm. We then went to his house, Llanrumney, by what is marked as the Roman Road in the map.

March 26. He and I walked to Caerphilly; going and returning by Lisvane; crossing the hills on our way by a beautiful pass, called Bwlch-y-dwy-Llechan. We followed the turnpike road on our return as far as the turning to Lisvane, and examined a small but strong fort, Castell-mor-graig, on the way. Caerphilly well worthy of a visit.

March 27. Walked about the neighbourhood, and went down to the edge of the salt-marshes below Rumney. Found many of the round nut-like gall upon the oaks.

March 28. Went to Cardiff and Llandaff; examined the cathedral, etc. Walked to Coedrhiglan, Mr. Traherne's place, and slept there.

March 29. Returned to Llanrumney. Walked from Coedrhiglan to the fine cromlech to the south of Dyffryn House; then to St. Lythans, in the church of which there are some singular arches on the south side of the chancel; then to Wenvoe; over the hill by Cwm Slade to Caernau, where the whole hill top is strongly entrenched; then to Michaelston-super-Ely and St. Fagans, where the castle walls remain; then by river-side to Ely Station, Pen Hill, and field-way to Cardiff, where the carriage met us.

March 30. *Sunday.* Went in the morning to Rumney Church, and at 6 p.m. to St. Mellon's Church.

May 28. Cambridgeshire Naturalists' Club excursion to West Wratting. I went with Hiley and Elphinstone, and met there Clark. We went to Mill Wood, Yen Hall Wood, Brook Farm, to Wratting. By Hall Wood through a very pretty country to Weston Colville; back by the road to Wratting. Found *Ranunculus floribundus* and *Melica uniflora.*

June 25. Meeting of the Cambridgeshire Naturalists' Club, nominally at Sutton, really at Ely. Went by the windmills to near Witchford, then by Little Hill to Witcham and Sutton; returned by the turnpike road to Ely.

July 1. Newbould, Hiley, and I walked by Fen Ditton and Horningsey to North Hill Farm, over the bridge at the Lode, along

its north side to the Cam. Visited the station of *Acorus*, on the Wash-way. Returned all the way by the river. We noticed a very large quantity of *Lolium italicum* upon the wash of the river (east side) below Clayhithe, doubtless introduced by some accident.

July 14. Newbould, Stratton, and I went by rail to Waterbech, then walked by Middle Hill Drove to Upware. Visited Wicken Fen to botanize. Returned by the river-bank to the railway station at Waterbech. A man told us that there was plenty of the *Acorus calamus* on the wash on the east side of the river above Upware.

July 23. Cambridgeshire Naturalists' Club at Cottenham. Newbould and I alone. Went by rail to Longstanton, then walked by Willingham, Balsar's Hill, to High Bridge. Saw *Galium elongatum* exceedingly large by the Mare Way. On the wash of the old Ouse we saw *Rumex pratensis* in great plenty. From the draining mill we went to Cottenham. Could not get any dinner there. Walked home to Cambridge.

Aug. 4. Left Cambridge. To Dr. Lankester, 8 Savile Row, London.

Aug. 6. Dr. Lankester and I went to Cheltenham for the British Association Meeting.

Aug. 7, 8. For the last week the weather has been exceedingly hot.

Aug. 9. Most of this day it rained, and rendered the temperature rather more bearable. As it had given me cold, I did not join the party to Cirencester. Was sorry to be prevented.

Aug. 10. *Sunday.* Spent the day with R. S. Lingwood, Redesdale House, and his family, where R. M. Lingwood was staying. Went to Christ Church, and heard an excellent sermon from Mr. Petitt, the celebrated church architect.

Aug. 11. Was to have dined with the "Red Lions" at the George Hotel, but when we got there we found that many more had come than were intended, and so finding no room, Balfour and I and others left, and dined elsewhere.

Aug. 14. R. M. Lingwood and I went to Cirencester, and saw the Agricultural College; also the Roman Pavements removed from the street of the town, and roofed over.

Aug. 15. Joined a meeting of the Cotteswold Club. We went to Beckhampton Hill, and to the springs of the Thames. Dined with the club at the "Lamb."

Aug. 16. Left Cheltenham, and arrived at Welshpool in the evening.

Aug. 17. *Sunday.* The church quite modernized, and spoilt.

Aug. 18. Barnwell and his brother-in-law, B. Chapman of Jesus College, came to join me in the lodgings. First day of the Cambrian Association Meeting.

Aug. 19, 20, 21. All wet days, so that we could not take any country excursions. Only went on Wednesday, through the rain, to Powis Castle.

Aug. 22. A fine day. Had a very interesting excursion to Montgomery.

Aug. 23. The meeting ended. Both my friends left Welshpool. Walked alone to the top of the park, from whence there is a splendid view. The whole of the park is beautiful. Descended to Castell Caer Einion, where the church is modernized. Returned by a fine camp, called Pen-y-foel. Dined with H. L. Jones.

Aug. 24. *Sunday.* Heard the Rev. Rowland Williams preach. In the afternoon walked by the road to Kilkewydd Bridge, and returned by the path across the fields. Found close to Glan Hafren several plants of *Agrimonia odorata*, in a damp situation; all that I saw yesterday in the park was *A. Eupatoria.* Dined at Powis Castle. Afterwards I identified a plant that C. E. Parker finds plentifully at Belan near Welshpool, with the *A. odorata* (on the 29th I found plenty of it near the Gaer) in the lane by Trefnanney.

Aug. 25. The Rev. F. W. Parker, and his brother C. E. Parker, joined me in a walk. We went by Leighton New Church (very expensive, looks well at a distance, but bad in detail) and up the hill to Caer Digol. This is a very fine and large circular earth-work, consisting of one bank, and a broad outer ditch. The entrance seems to have been towards the south. As a heavy cloud had settled upon the hill, together with fine rain, we again descended, and went to Buttington, where we called upon the Rev. D. P. Lewis, who returned to Pool, and dined with us at Mr. Parker's. (N.B.—C. E. Parker is my old correspondent of Torquay).

Aug. 26. Mr. C. E. Parker walked with me to Guilsfield, through a most beautiful country. We then ascended the valley for about two miles, and returned by the road passing the Quakers' Burial Ground. Afterwards I went alone to Kilkewydd Bridge.

Aug. 27. Spent the morning in the Castle Gardens with Mr. Brown, the gardener. Afterwards walked with C. E. Parker to the top of the park, returning along the summit of the hill, and descending by the park paling to the road on the northern valley.

Aug. 29. Walked by Guilsfield to Sarn Bridge; then along the lane by Street to Pentre-llaeth-enwyn and the Gaer near Trefnanney. It is very faint, owing to cultivation, and was probably never very strong; there is a slight ditch and bank surrounding part of the hill top. Returned by Cae Mawr to Street, then along the same lane, leaving it by a footpath and other lane to northern angle of Gaer-fawr, which is a very large and strong hill fort. Descended to Sarn Bridge, and returned to Pool by Pentre and Trelydan-Uchaf and Cae Athro. This set of lanes is perhaps a part of a Roman road.

Near Trelydan Cottage the road is ridged much like such a road; otherwise there is no sign of Roman work; the lane seems as if paved with small stones in most of the best preserved parts, but it is often deeply sunk below the fields. It seems to be certainly ancient. Dined with the Rev. F. W. Parker.

Aug. 30. Crossed the Severn at Kilkewydd Bridge; followed the road to Forden Heath, then turned up the road on the Long Mountain, by a footway a little above the Stubbs to Trelystan Church, which is a very curious wooden structure built like the black and white houses, panelled within, and plastered on the outside. It is now being faced externally with a similar framework of Oak, and the interstices filled in with bricks. The situation is secluded and beautiful. There are several very old yews in the yard. Met there the Perpetual Curate (Mr. Judge), and walked with him to Caer Digol, which we paced at right angles, and differed much in the result, he stepping 145 and I 193 paces. Descended to his house at Leighton, took lunch with him, visited the interior of the new church, which is better than the outside. Good painted glass. Back to Pool by the ferry.

Aug. 31. In the afternoon I walked along the turnpike road as far as the site of the Abbey on the Oswestry road, and returned along the towing path of the canal. *Epilobium palustre* and *E. obscurum* grow by the canal. I have not seen *E. tetragonum* in this district.

Sept. 2. To Ludlow. Walked through the White Cliff Wood to Aston, where there is a small, altered, Early English Church, with a fine Norman tympanum to the north door. Went over the hills, by a considerable round to the south, to Richards Castle and Church. Of the former there are only a few pieces of wall left, surrounded by a very deep fosse; the latter a fine church of Early English and Decorated character, with a curious detached bell-tower at the east end. Returned to Ludlow by Moor Park and Ludford.

Sept. 3. To Stanton Lacey (Saxon church in part), Onibury, back by south side of river to Bromfield, where I accidentally met Burley, James, and Francis; through Oakley Park, where I saw some very old oaks behind the house on the bank above the river.

Sept. 4. To Titterstone Clee Hill. Walked by turnpike road, then along road under Hoar Edge. Ascended the chief hill from the east, over the entrenchment of loose stones; descended near Giant's Chair (all natural here), by Bitterley Court, Henley, to Salop. On the top there is a circle of stones sunk in the ground twenty yards across.

Sept. 5. To Hereford and Lyston to visit Mr. Lingwood.

Sept. 6. Walked through the Mynde Woods; found *Agrimonia odorata.*

Sept. 8. Went alone to Much Birch and Little Birch and Landinabo. Afterwards W. H. Purchas (now a student of Durham) came, and we three went to the Mynde Woods to shew him *A. odorata.*

Sept. 10. Lingwood, Purchas, and I went to Whitchurch, on the Wye below Ross. Walked to the Iron Tower on the top of the Little Doward Hill; then descended to the river side, finding what is thought to be *Epipactis ovalis* by the way, in the thick, stony, and steep woods. Examined the rocks near the river, and then went above a long range of lofty cliffs on the Great Doward, where we saw *Tilia parviflora* and *T. grandiflora* growing side by side out of the clefts of the rock, and each apparently equally quite wild. Got some dinner at Whitchurch, and returned to Lyston in the evening. Watkins, the Relieving Officer of the Union, formerly a shoemaker of Monmouth, a good botanist, walked with us.

Sept. 12. Went to St. Weonards. The tumulus recently opened by T. Wright is left open. There is nothing now to be seen except a broad ditch extending to the middle with heaps of stones in it. Returned by Trewathen Pool (now drained), finding *Carex pendula* there, Old Hall, and Llanwarne Court.

Sept. 13. Drove to Kilpeck. Walked back over Saddleback Hill. Saw three oaks, perhaps Don's three species, in the fields below the north side of the hill, indigenous certainly.

Sept. 14. *Sunday.* Lingwood and I walked to Orcop to church.

Sept. 15. Saw plenty of *Ballota ruderalis* at Lyston; it abounds in the neighbourhood, I am told. Walked to and through the Mynde Woods; the only plant of interest there seen was *Lastrea spinulosa.*

Sept. 16. Went with the Woolhope Field Club to Abergavenny, and up the valley to a waterfall, quarries at Mynydd Pen Gwern, Bryn Mawr, and Beaufort. Breakfasted at Abergavenny, lunch with Dr. Bevan at Beaufort, dined at Abergavenny. Went to and from the latter place by rail, to and from Beaufort by a hired coach. A beautiful valley; above that, the barren district of the iron and coal works. Saw coal quarried close to the surface of the ground.

Sept. 17. Left Lyston . . . to Clifton, to spend a few days with the Rev. H. Longueville Jones.

Sept. 18. Walked about Bristol, and saw the Library at Clifton, and the old City Library. To tea with the Rev. . . . Fenwick, a great book-collector, above eighty years of age.

Sept. 19. To the camps on Leigh Downs; back by Ashton. In one of the camps the river bank has been grouted with mortar, which has only penetrated a short distance.

Sept. 20. Walked over to Durdham Down looking for the Roman road from Bath to Sea Mills, but could not find it. Returned by the river and the camp on the top of St. Vincent's Rocks.

Sept. 23. Jones and I traced the Roman Way from the point where the Westbury and Shirehampton roads divide, through the reservoir on the Down, leaving the mark of the city boundary a very little to the right, crossing the Shirehampton road at a very acute angle, to the tree opposite the back gate of Durdham Lodge.

Sept. 24. Returned to Cambridge. Did not sleep from home during the whole winter.

1857. *June* 2. Stratton and I went to West Wratting. Took a walk through the fields towards Weston Colville. In Hall Wood we found the fly Orchis, and several others. After an early dinner we went to Hildersham, and examined the Furze Hills, where we found *Aceras anthropophora* and *Hypochaeris maculata* (in bud); we also hunted unsuccessfully near Hildersham for the Spider Orchis.

June 9. Cambridgeshire Naturalists' Club trip to Swavesey. Newbould, Hiley, Carter, and I were present. We went to Swavesey Church, then by a lane and footpath to Fenny Drayton, along the side of the great drain to the Ouse near Holywell, descended the river-side for about mile-and-a-half, and returned to Swavesey. Went to Over Church, and returned home. Found no plants of note. The churches at Swavesey and Over very fine and interesting. Fenny Drayton Church is also good.

June 11. Hiley and I went to Haslingfield. Found *Aceras* in chalk-pit. Saw two or three specimens of *Ranunculus hirsutus* at Barton, on our return, in the old place under the hedge.

June 16. Hiley and I went by train to Whittlesford Station. Walked by Triplow and Newton, and Hauxton home. Found in the lane leading from the railway bridge near Meggott's Mount to Hauxton, plenty of *Ranunculus Drouetii* in the ditch on the left-hand side of the way.

June 22. W. H. Purchas of Ross came here on his way from Durham, and had rooms in College.

June 23. He, Newbould, Hiley, Stratton, and I went by train to Waterbech, and then walked to Upware, and went to Wicken Fen. Found *Viola stagnina*, etc.

June 24. Purchas, Hiley, and I walked by Hills Road, and returned by Wool Street and Cherry Hinton Chalk Pits. Found *Hypochaeris maculata* in the old chalk pit, on Three Trees Hill.

June 26. Purchas and I went to see Newbould at Toft. Walked by the fields to Caldecot Church, by lane to Kingston Church, and then back to Toft.

July 14. Cambridgeshire Naturalists' Club. Went by rail to Foxton, and then walked to Barrington. Newbould, Watson, Gibson, Clarke, and I were present, also Mr. Barrett as a visitor. . . . We visited the chalk range near Fox-hole Down together.

Aug. 11. Newbould, Stratton, and I went in a dog-cart to Upware (Cambridgeshire Naturalists' Club), and took a man named Vipon (?) into Wicken Fen, where he shewed us a single plant, with two stems, of *Senecio paludosus*. It is amongst the sedge, not far from the drain next Upware. After dinner we went by Harrison's Drove to Reche, and then by road through the two Swaffhams and Bottisham to Cambridge. We went to the edge of the fen-land at Swaffham Bulbeck, but found nothing of interest.

Aug. 14. To London. Dined with Lankester.

Aug. 15. To Ross, where I met Barnwell and Chapman, and went to Monmouth with them by car. We lodged together during the meeting of the Cambrian Archaeological Association.

Aug. 17. In the afternoon I walked along the tramway on the eastern side of the river by Redbrook to Cherry Orchard, looking for *Rubus imbricatus*, but am far from being sure of having found it.

Aug. 18. Went with the party to Trelleck and Tintern.

Aug. 19. Went with the party to Buckstone, Stanton, St. Briavels, etc.

Aug. 20. Raglan Castle, where we were received by the Caerleon Society in a very hospitable manner.

Aug. 21. Grosmont Castle, etc. Lingwood met us there.

Aug. 22. Went across the country by White Castle to Abergavenny, thence by rail to Rhyl, Denbighshire. Rhyl is a horrid place, no shade, no trees; all sand.

Aug. 24—26. To Ruthin, to visit Barnwell. To Dublin, for the meeting of the British Association.

Aug. 27. Dined with the Lord Mayor.

Aug. 28. Dined with Dr. W. R. Wilde, of 1 Merrion Square, North.

Aug. 29. Breakfast with Dr. Churchill. Went to the Glasnevin Botanic Garden.

Aug. 30. To Kingstown with Liveing. Walked by the coast to Dalkey.

Aug. 31. Red Lion Club Dinner at Jude's Hotel. Jukes, Chairman.

Sept. 2. British Association Meeting ended. Breakfasted with Jukes. Dined in the College Hall with Harvey.

Sept. 3. Aran Excursion. A party of about sixty-five went in the steamer from Galway. We saw all that was in the plan, but not exactly in that order, on the first two days. I saw no plants of interest, all limestone species, except *Allium Babingtonii*, growing in the crevices of the limestone on Inishmaan Island, where it was

abundant. After leaving the middle island, we went to the cliffs of Mohar, on the coast of Clare. Railway and steamer given gratis.

Sept. 5. Returned to Dublin.

Sept. 8. To Bangor.

Sept. 9. Walked to Llanfairfechan; then by the back of the hill to Dinas Pen Maen. The walls there are similar to the Firbolgic forts in Ireland. There are two lines of wall in most parts, sometimes near together, at others distant. A few traces of Clohaughans. Then to Carnethau and Manan-hirion on Moel-fre. Then by Craigboyd House to Bryn-mawr, and the railway station at Penmaenmawr, and back to Bangor by railway.

Sept. 10. To Ruthin, to visit Mr. and Mrs. Barnwell.

Sept. 12. Walked to Eyarth Camp.

Sept. 13. *Sunday.* Walked to the afternoon service at Llanbedr.

Sept. 14. To a camp near Eyarth.

Sept. 15. To Efenechtyd. Saw a camp not noted in the maps.

Sept. 19. To Llanrhaidr. Found a single flower of *Linaria vulgaris-Peloria* in the meadows near the river.

Sept. 20. *Sunday.* To Llanfair for the afternoon service.

Sept. 21. To Chester. Saw St. John's Church, old houses in Watergate Street, and visited the old and new and railway bridges.

Sept. 22. Went by train to the Art Treasures Exhibition at Manchester. Was much more interested by the museum of ornamental art than with the pictures.

Sept. 24. Arrived at St. John's College.

Oct. 1. Went to Harleston, and then to St. Margarets, Southelmham, to visit E. A. Holmes.

Oct. 2. Went to Stow Park Farm, near Bungay, to see some Roman remains of a villa (?) lately found. Had to go to a spot near to the field-lane due south from Stow Park, but found that the excavations had just been filled up for cultivation. On the way back examined Flixton new Church. Its tower was Saxon, or very early Norman, and the new one retains the peculiarities of the old one.

Oct. 7. Humiliation Day for India.

Oct. 9. Went to see the site of some Roman pottery found on what was lately Gresher Green. Left St. Margarets and arrived at J. J. Smith's at Loddon.

Oct. 10. Walked to Hales Hall, where the house is gone, but a good gate-house and barn of the Jacobean period remain. Then to Hales Church, originally Norman, of much interest and well deserving of a monograph.

Oct. 12. Went alone to Chelgrave Church. In the afternoon walked to Heckington, where there are Norman traces in the church, and very rude arches between the aisles, and to Norton, a beautiful Decorated church.

Oct. 14. To Norwich and Cambridge.

Oct. 24. A very high flood, over the middle walk in the College walks. It was up to the top of the thick stone, below the cornice on the buttress on the east side of the western arch of the old bridge of St. John's College, fully a foot higher than the flood of November 13th, 1852. It covered most part of the grass plot in front of the New Court. Highest at about 6 a.m. The exact height was the top of the twenty-second course of bricks above the usual level.

Nov. 12. This day the barometer in my rooms stood at 30·73.

Nov. 13. Went to Cottenham with Banks, and slept at his rectory house.

Nov. 14. Walked into the fen to the gravel pits near the edge of Landbech parish, where Roman pottery had been found. Saw a few little bits of it. Also a little to the north of the gravel pits saw the line of the Car Dyke plainly. It is partly occupied in its middle by a modern watercourse, and partly is quite dry, but in both cases its ancient banks are clearly to be seen. Returned to Cambridge.

Nov. 18. Went to London. Dined with the Linnean Club.

Did not again sleep out of College before the end of the year.

1858. *March* 15. Went with Hiley and Newbould to Peterborough and Castor Station to see the annular eclipse of the sun. It was very cloudy, but we saw many hasty views of the eclipse, not just the best part, but very nearly. The darkness during a few seconds most remarkable, blackish throughout. The birds were still during the darkest time only. The sudden return of light very sudden and striking. We saw it from the Ermyn Street. Saw in a ditch the foundation stones of the Roman Way resting upon a layer of mortar, made with pounded bricks. I never saw this before. We then went to Water Newton, and saw the mounds of Durobrivae, and the road as laid down in the Ordnance map. Walked back to Peterborough in time for the return train to Cambridge.

April 12. Hiley and I went to the Gogs and saw one flower of *Anemone Pulsatilla* just opening, also buds of *Muscari racemosum* in the old place. This day the College and walks were closed against strangers. During the past week the old summer house at the corner of the Fellows' ground was pulled down.

April 16. Meeting with Bentham and Alexander about the Linn. Soc. British Herbarium.

May 29. This day the water was let into the pond in the Botanic Garden.

May 31. I met the Vice-Chancellor, Dr. Philpott, and Mr. Harwood, the Surveyor at the Botanic Garden, when the latter told us that, after a careful examination of the new and old overfalls, he found that the new one (letting the water into the Garden) was two hundredths of a foot higher than the old one, which is to remain in the Trinity College Farm; and that therefore, when the water was running into the Garden, there was a height of water at the head which supplies the town of two hundredths of a foot more than there was a legal right to; the height being always regulated by the old overfall, over which it would continue to run, after it was too low to allow of any going into the Garden over the new one.

June 8. Cambridgeshire Naturalists' Club Meeting. Went by train to Dullingham. Visited Dullingham Church, then by Burrough Green and Brinkley Churches to Six Mile Bottom. In a field west of Burrough Green Church there is plenty of *Aquilegia*. By the roadside between Brinkley and the Station we found *Malva moschata*. Hiley and I saw the *Herniaria* in the station discovered June 20th, 1855.

June 10. Went to spend the day with Mr. Clay, the Vicar of Waterbech. We went to Denny Abbey and examined it carefully; then to the Ely road. Afterwards to the church and site of the Waterbech Monastery, and to the course of the Car Dyke, between the village and the railway. The upper part of the dyke is an exceedingly deep and wide cut.

June 11. Newbould, Hiley, Stratton, and I went by train to Fulbourn; then botanized in the spinney between the railway and the Wilbraham road, where we found *Ophrys apifera* and *muscifera*; then crossed the brook by the railway bridge, and walked along the bank as far as Shardelow's Wells and the Fleam Dyke; returned through Fulbourn, and by the church at Cherry Hinton.

July 2. Hiley and I went by Cherry Hinton (where we found *Galium erectum* abundantly in the old pit in the fork of the road to the great chalk pit), Teversham, finding in the lane *Rosa systyla* (?), by the footway across Teversham Fen to Quy Bridge, by the High Ditch Lane to Ditton, and the riverside to Cambridge.

July 19. Left Cambridge and arrived at Bath . . . with Dr. R. W. Falconer. Meeting of the Archaeological Institute to-morrow.

July 20. First day of the Meeting. Called upon the Fowlers.

July 21. In the afternoon walked to Hampton Down and saw the Hut Circles there with Mr. and Mrs. Freeman. Walked back and took tea with them instead of going to the great dinner of the Institute. Dr. Guest read a splendid paper upon the boundaries of the English and Welsh, shortly before the conversion of the former.

July 22. Mr. and Mrs. Freeman and I went by train to Bradford. We examined the bridge and little chapel upon it. Then

near the church we fell in with Mr. Jones the Vicar, and discovered that the Free School House was an old little church of the time of Knut in a very perfect state. We then examined the fine church. This took up all our time. We then went in a fly to Westwood and saw another fine church and the old manor house, and went on alone to Norton St. Philip, not having time for more than a glance at the Castle at Farleigh. At Norton we dined at Mrs. Gutch's (the mother of Mrs. Freeman), and Freeman and I walked to Freshford, and returned by the rail to Bath. A most successful day's trip. Far better than going to Glastonbury with the Institute.

July 23. Went in the afternoon with a small party to Bradford to shew the church, barn, etc.

July 24. Walked with Franks over Lansdown to Langridge to look at an ancient effigy in the church. Dined with Mr. C. J. Vigne at Weston to meet Mr. Shuttleworth of Berne.

July 26. Went with the party to Stanton Bury, Stanton Drew, Keynsham, and Bitton.

July 29. To Llanrumney to visit E. A. Freeman. Went in the afternoon to Cae Castel, the site of an old fort of some strength.

July 30. Went by the side of the river Rumney up as far as bridge below Cefn Mabley. Saw an abundance of *Antennaria margaritacea* on both sides of the river at intervals, also *Saponaria*.

July 31. To Cardiff and back, also to Llandaff.

Aug. 3. Went to see the manufactory of coarse brown pottery at Rumney Bridge.

Aug. 4. Examined *Rubi*.

Aug. 5. Went to the marshes below Rumney. School-feast in the afternoon.

Aug. 9. Left Llanrumney, and went to Milford Haven by rail.

Aug. 10. Left Milford Haven at 1.20 a.m. by steamer for Waterford. A very calm but foggy night, so that we had an extremely narrow escape from running at full speed upon the Salter Isles. We were within two ships-lengths of them before they could be seen. In the afternoon Newbould (who joined me at Milford Haven) and I walked for two or three miles up each side of the estuary above the City of Waterford, and also through much of the town.

Aug. 11. To Killarney and Roche's Muckross Hotel.

Aug. 12. Newbould and I went up some of the watercourses of Turk, and along the road as far as the Long Range; then examined the marshes and bogs near the banks of the river, and back again. Wrote a note to Mr. Herbert this evening to ask permission to go over his grounds.

Aug. 14. Went on a car with Mr. Brownrigg to the Gap of Dunloe. Newbould and I went to the top of the Gap. We found in Auger Lake a *Sparganium*, like *natans*, but doubtful.

Aug. 15. *Sunday.* Went to Church at Killarney. Met Dr. Lloyd, of Trinity College, Dublin, at the church.

Aug. 17. We spent the whole morning in the Muckross demesne. Saw *Rubus saxatilis* and *Silene maritima* on the shore of the lake.

Aug. 18. We went to Ross Island, and again saw the same two plants abundantly. Met Mr. Wright, the zoologist, of Trinity College, Dublin, at the hotel this evening. He said that there was an abundance of the *Spiranthes gemmipara* near Berehaven, and also that he knew two or three stations remaining for the *Trichomanes speciosum*, at a distance from Killarney, where it is now very nearly extirpated.

Aug. 19. Newbould returned to England. I went to Kilmallock to see the ruins. Few of the old houses remain; the two gateways are curious; the Dominican abbey beautiful. Went on to Goold's Cross, and thence by car (five Irish miles) to Cashel.

Aug. 20. Visited the Rock, and a monastery near it. . . . To Waterford.

Aug. 22. Met Dr. Lloyd, of Trinity College, Dublin.

Aug. 23. Went to Thomastown Station, and walked along the line to Jerpoint Abbey, which is now very carefully kept. . . . To Kilkenny.

Aug. 24. Found that Mr. Graves was from home. Saw the Cathedral; went to the top of the Round Tower for the fine view; then along a walk by the river-side to and beneath the walls of the castle. Arrived at Dublin.

Aug. 25. Went to the Glasnevin Garden, and spent some time there with Mr. D. Moore. Then went with him to Colonel Hill's beautiful place beyond the park, and overhanging the river. Called to see the garden of Mr. Wilkie, the park-ranger, and also at the Viceregal Garden.

Aug. 26. In the evening to Wilde's house.

Aug. 27. College Botanical Garden. With Wilde to Donnybrook Fair.

Aug. 28. Went by 10 a.m. train to Drogheda. Visited the ecclesiastical ruins; walked to New Grange. Visited the large ring-fort at Netterville, the chamber in the tumulus of Dowth, and that of New Grange; seeing at the latter all that is mentioned in Wilde's book on the Boyne. Wilde and Armstrong came in the evening, and joined me at New Grange. We returned to Dublin in company . . . at night.

Aug. 29. Went with Wilde on a car to a cromlech close to St. Columba, and another between that and Kingstown. Dined at Wilde's.

Aug. 30. Left Dublin . . . reached Rhyl for the Meeting of the Cambrian Archaeological Association. Lodgings with Barnwell and T. Wright.

Aug. 31. Had a nice excursion to Rhuddlan, etc., and dined at Colonel Morgan's, at Golden Grove, with the members.

Sept. 1. Excursion to Holywell, Basingwork Abbey. Dined with the party at Downing, with Lord Feilding.

Sept. 2. To Conway. In the Chair of the Committee for three hours in the evening.

Sept. 3. Did not leave the town all day, except to call upon Miss Angharad Lloyd, at Tyn Rhyl. Meeting ended.

Sept. 4. Left Rhyl with the Freemans . . . to Bangor. By rail to Carnarvon, and visited the castle and walls of the town. Returned to Bangor.

Sept. 8. Reached Cambridge.

Sept. 14. Walked by Coton and Hardwick, along the Port Way, by Hardwick Wood, to Caldecot and Toft. Came back in Newbould's carriage.

Sept. 22. Went with Liveing to Leeds for the British Association Meeting. Hayward joined us there in lodgings. I am made President of Section D at this meeting.

Sept. 23. Dined with Mr. and Mrs. Sharpe (late Fellow of Christ's), at Chapel Allerton.

Sept. 25. Went to Kirkstall Abbey. Much pleased with the ruin.

Sept. 26. *Sunday.* Heard Dr. Hook.

Sept. 27. Dined at Mr. S. Hey's.

Sept. 28. "Red Lion" dinner.

Sept. 29. Conclusion of the Meeting. Went to York. Dined with James Backhouse, junr., and slept at his father's house.

Sept. 30. Cambridge.

Nov. 23. In the night preceding this day the temperature fell to 13° Fahr., and the river Cam was frozen over at St. John's College.

1859. *May* 21. Went with Hiley to Shelford to hunt for the station of *Ophrys aranifera* given by Ray. All the old gravel pits between Shelford and Trumpington are ploughed up.

June 3. A Meeting of the Philosophical about the British Association. W. Hopkins took the Chair. Bateson, Vice-Chancellor, moved that: "In case the Committee of the British Association

should think it expedient to hold a meeting of the Association at Cambridge, it is the opinion of the resident members of the University here assembled, that a friendly reception should be given to the meeting, and that, at the proper time, application should be made to the Senate for the use of such of the public buildings as may be required for the general purposes of the Association." Also "That a deputation consisting of Professor Adams, Mr. Hopkins, and Mr. C. C. Babington be appointed to communicate the purport of the preceding resolution to the Association at its next meeting, intended to be held at Aberdeen."

June 13. Went in a barge, by the invitation of Dr. and Mrs. Cookson (St. Peter's College), to Bottisham Fen and Wicken Fen. Dined at Upware. Returned at night. The Cooksons, Professor and Miss Henslow, Major Barnard, Mr. Hiley, and two others formed the party as guests of the Master of Peterhouse. A nice day's botanizing.

June 23. Went with Dr. and Mrs. Cookson to Chippenham. We visited the gravel pit, the fields towards Badingham, finding plenty of *Apera interrupta*, and the park wall. We found *Papaver Lamottei* at Chippenham.

June 27. Went in a fly with Dr. and Mrs. Cookson to Wicken Fen. Entered it near the further angle in Spinny Bank, and went over a very large part of it, leaving near the windmill. Then went to the Upware Quarry.

July 2. Whittlesford by the Middle Moor to Little Shelford and Hauxton. No trace of a gravel pit between Little Shelford and Hauxton now.

Aug. 13. To Cardigan. Cambrian Archaeological Association. Joined Barnwell and his brother-in-law, Chapman, there.

Aug. 20. I remained to break up the museum.

Aug. 22. Left Cardigan and arrived at E. A. Freeman's, Llanrumney.

Aug. 23. Went with him and Mr. Pinder, of Trinity College, Oxford, to Chepstow and the Wyndcliff.

Aug. 27. Mr. and Mrs. Freeman and I went by steamer to Burnham, and then to Mr. F. H. Dickenson's at Kingweston, near Glastonbury, to attend the Somerset Society's Meeting.

Sept. 2. Arrived at Cambridge.

Sept. 12. Left for Aberdeen. British Association.

Sept. 13. Lodgings with Liveing.

Sept. 18. *Sunday.* At St. Andrew's Church.

Sept. 19. "Red Lion" dinner. Owen in the chair.

Sept. 22. Two hundred of the general committee went to Balmoral by invitation to see Highland Games, etc. Started at 6 a.m. by train to Ballater, then by omnibus to Balmoral, arriving there at 1.30 p.m. Day tolerably fine. The Queen, Prince, and family walked about amongst us for a long time. We had an excellent cold dinner, and started back again at 5.45, reaching Aberdeen at 1.45 a.m.

Sept. 26. To York, to James Backhouse, junr.'s, house, at Bankside.

Sept. 28. Reached home.

Oct. 6. Went to Wisbech, to visit Algernon Peckover. He drove me to the marsh on the east side of the river, near Foul Anchor. Found next to nothing.

Oct. 7. This morning we went to Boat-inn Ferry, opposite Guyhirne, and returned along the same south-east bank of the river; also to Leverington, and the shore at Horse-shoe corner. Afterwards I walked alone up the north bank of the river, and some way down the third drove. Mr. James Balding, a bookbinder (?) came, and discussed many native plants. Returned to Cambridge.

Oct. 20. Went to Saffron Walden for the day, to attend a meeting of the Essex Archaeological Society. Dined with Joshua Clarke.

Oct. 27. Went to Ely with Luard, to visit the Dean (Goodwin) and meet C. W. Goodwin.

Nov. 17. To London.

Nov. 18. Dined with Franks and his mother at 55, Upper Seymour Street. Allowed him to propose me at the Society of Antiquaries.

Dec. 14. On the night following this day, the river was quite coated over with ice. Temperature 15°.

Dec. 15. On this night the temperature fell to 8°.

Dec. 17. On this night the thermometer sunk to 4°, on the 18th to 8°, and on the night following, the 19th, there was an exceedingly rapid thaw, but it froze again at night.

Dec. 22. Went to London, to attend my first meeting of the Council of the Royal Society. Was admitted a Fellow at the "Antiquaries" in the evening.

Dec. 31. In remarkable contrast with the middle of the month, the temperature on the last night of the year did not fall below 48° Fahr.

1860. *Feb.* 28. A hurricane passed over Cambridge at 12.30 to 1 p.m., blowing down many trees and two stacks of chimneys. It came from the west by south.

Feb. 29. Corrected the first proof of my "Flora of Cambridgeshire."

March 29. Went to London, to a meeting of Royal Society Council.

April. This was a very cold and wet month, no leaves appeared.

May 3. Dr. Cookson and I went by rail to Six Mile Bottom, and then walked to Westley Wood to get *Primula elatior*, which is abundant there, and now in flower.

May 4. Corrected the last revise of the "Flora of Cambridgeshire."

May 22. Went with Dr. and Mrs. Cookson to the thickets by the brook near Fulbourn, and saw a tolerable abundance of Fly Orchis; also to the Fleam Dyke.

June 26. Went to Oxford, for the British Association Meeting. Put into rooms at Pembroke College.

June 27. Dined in the Common Room with Dr. Rolleston, my kind entertainer here. Dr. Sharpie, Secretary of Royal Society, one of our party in the College.

June 29. Dined with Westwood.

July 2. "Red Lion" dinner.

July 4. Meeting ended. Newbould and I walked to Godstow, and saw the *Aristolochia* in flower. The Port Meadow was flooded, and we came back along the path by the canal.

July 5. Left Oxford for London.

July 6. Cambridge.

July 13. Dr. Cookson and I went to Ely; walked to Stuntney, Half-acre Farm, Junction of Soham Lode with river, along the river back to Ely. Found an abundance of *Sinapis nigra*, forming the prevalent weed in the fields and road-sides.

July 17. Went with Dr. Cookson to Triplow; examined the turf-holes, and went to a good piece of boggy land at the Great and Little Nine Wells. Found there plenty of *Epipactis palustris*, *Fumaria micrantha*, *Filago apiculata*, etc.

Aug. 27. To Bangor, for Cambrian Archaeological Association.

Sept. 3. Went by coach with Lloyd Philipps to Capel Curig. . . . to Dolbadarn Castle Hotel.

Sept. 4. Philipps and I walked to the top of the pass and back; examining the glacial action, and the blocks perched upon the crags thereby.

Sept. 6. I went to Dinas Dinorwig, and examined it carefully, and made a careful plan of it.

Sept. 8. Walked round the lakes with Busk.

Sept. 10. Went on to the mountains above the old road to Carnarvon, in search of perched blocks, and found several very large ones; then to Dinas Dinorwig to complete my plan; then to Castel, near Plas Pentre, a flat-topped mound with graduated ascent; then by the slate quarries to Dolbadarn.

Sept. 11. About the lakes botanizing.

Sept. 12. With Busk to the Llanberis Pass.

Sept. 18. Went to see a perched block of quartz on the rounded mound of rock by the Pen-y-Llyn toll-gate. Afterwards to one on the very edge of the cliffs between Derlwyn and Pen Careg-y-fran above Llyn Peris.

Sept. 20. Went up Snowdon with the Busks.

Sept. 24. Busk, his brother Charles, and I went with John Roberts, the guide, to Cwm Glas, by ascending highly on Snowdon, and descending into it. We went as far as the saddle of turf by Crib Coch, and descended into Llanberis Pass.

Sept. 25. The same party went to Twll Du and Llyn-y-Cwm.

Sept. 28. To Somerleaze, near Wells, to visit E. A. Freeman.

Sept. 29. To Wells with J. H. Parker and Freeman; examining the Cathedral and Vicar's close.

Oct. 1. Examined hut-circles on Pen Knowle; visited Battlebury, Castle Hill, and by Coxley and Tilbury to Somerleaze.

Oct. 2. Gathered *Arctium tomentosum* by ditches near Battlebury.

Oct. 3. To Evercreech, to see the church, and meet Parker. Visited the old houses, hall, and church at Crosscombe on the way back.

Oct. 6. Cambridge.

Dec. 25. The temperature fell to $3\frac{1}{4}°$ at the outside of my rooms at 8.30 a.m. this morning. (N.B.—This was the frost which did so much harm to the evergreens at Cambridge and elsewhere). At the Observatory, the lowest temperature was $3\frac{3}{4}°$.

1861. *April* 22. Walked to Gogmagog Hills. *Anemone Pulsatilla* in beauty, and great abundance in the pit at Little Trees Hill. Went round to the south-east of park; to Copley Hill, where is an abundance of the little *Viola hirta*; back by Woolstreet and Wort's Causeway. Went to seek for *Carex ericetorum*, but found only *C. praecox*.

May 3. Went to London, to the meeting of the Council of the British Association, and returned in the evening.

May 28. Went the same round as on April 22nd, and found the *Carex ericetorum*, one patch, by the south side of the Woolstreet,

nearly opposite to the Hills' Farm. Saw plenty of *Orchis ustulata* and *Astragalus hypoglottis*, also saw the *Senecio campestris* in flower.

"St. John's College, Cambridge,
"*May* 14*th*, 1861.

"Sir,—I beg leave to announce myself as a candidate for the Professorship of Botany, which is now vacant, and venture to hope for your favourable consideration, chiefly on account of my having made that science an especial subject of study during the most part of my long residence in the University. I strongly feel the inferiority of my qualifications when compared with those of my deeply lamented friend, Professor Henslow, who possessed in a pre-eminent degree the power of teaching the science and of creating a permanent interest in it amongst his hearers. Should I have the honour to be appointed the successor of so eminent a man, it will be my constant endeavour to fulfil the duties of the office in as efficient a manner as possible.—I have the honour to be, Sir, your most obedient servant, Charles C. Babington, M.A."

June 12. Elected Professor of Botany in the University of Cambridge. No opposition. Admitted the same day by Mr. Neville, Master of Magdalene College, Vice-Chancellor.

June 18. Went through London, direct to Marlborough College, to help Mr. T. A. Preston in the determination of a Botanical Prize. Was lodged in the new building, called the Sanatorium; breakfasting and dining in the Common Room with the Masters of the College.

June 19. Walked to Mildenhall, and some woods beyond that place, where the *Polygonatum multiflorum* is abundant.

June 20. To the forest, and over fields to the west of it.

June 22. Went to Collingbourne Ducis, to visit Rev. W. C. Lukis.

June 24. Went to the barrows, which Lukis is examining, above the road from Everley to Ludgershall.

June 25. Went again to the same barrows, and examined a possible British settlement on the slope of the hill, just under Sidbury Hill Camp.

June 27. To London. Went at night to London Bridge to see the great fire.

June 28. Council Meeting of British Association. Returned to Cambridge.

July 4. Went with Stratton by rail to Whittlesford. Found in the gravel pit to the west of the station *Tragopogon pratensis*, for the first time in the county. Went along the Royston road to the toll-gate, then turned off, and followed the hedge-row to a pond above the Little Nine Wells, in which *Scirpus lacustris* grows; then by Great Nine Wells, and for some distance down the water, then across the fields to the road, and home by Newton and Trumpington.

July 24. To Peterborough, for the Archaeological Institute Meeting.

July 25. Excursion to Oakham and Stamford.

July 27. To Thorney and Crowland. A very stormy day. A tremendous hailstorm at Peakirk, which we just escaped; hailstones like hazel-nuts lay in heaps by the road-side.

July 29. Returned to Cambridge.

Aug. 23. To Cardiff and Merthyr Tydfil, to visit G. T. Clark, at Dowlais House.

Aug. 26. To Swansea, for the Cambrian Archaeological Meeting.

Aug. 30. We wound up the meeting with a dinner at the house of the President, Mr. Vivian.

Aug. 31. To Shrewsbury.

Sept. 1. Dined with Rigg at the school. Tea with Dr. Kennedy.

Sept. 2. Rigg and I went to Uriconium.

Sept. 3. To Manchester, to stop with James Aspinall Turner, M.P., at Pendlebury House, for the meeting of the British Association.

Sept. 4. Commencement of the meeting. I am Chairman of Section D.

Sept. 9. It was determined that we should have the meeting at Cambridge in 1862.

Sept. 12. Conclusion of the meeting yesterday. I left this morning, and went to South Kilvington Rectory, near Thirsk, to visit W. T. Kingsley.

Sept. 14. Spent the evening with J. G. Baker, at Thirsk, looking over his *Rubi.*

Sept. 18. By rail and omnibus to Helmsley, and walked to Rievaulx Abbey.

Sept. 20. Went to Osmotherley, the top of the hill above Arncliffe, Mount Grace (Carthusian) Priory. Lunch and tea with Mr. Henry Jones, the vicar. Found *Trientalis* at the top of the Arncliffe Woods, also *Vaccinium Vitis-idaea* (in flower and fruit at the same time).

Sept. 21. Mr. E. B. Dennison came. We were in Thirsk examining the clock and bells most of the day.

Sept. 23. We went in a carriage to Byland Abbey, and over the hill to Rievaulx Abbey, and returned by the way of the White-stone-cliff hill.

Sept. 26. Went to a small black pond, embedded in wood, near Kirby Knowe, formed about sixty years since by a landslip.

Sept. 27. Went again to Mount Grace, to examine it with more care than we could do before.

Sept. 28. Cambridge.

Nov. 21. To London.

Nov. 22. Examined *Isoëtes* at British Museum. Cambridge.

1862. Commenced printing the 5th edition of the "Manual" on January 4th, 1862, and finished it on April 16th.

A cold wet winter and spring. I did not sleep out of College between November 22nd, 1861, and April 14th, 1862.

April 14. Bonney and I went by rail to Six Mile Bottom. Walked to Westley Wood to look for *Primula elatior*; abundance of it, but very little come into flower. Then by Carleton Grange, Linnet's Hall, across the country by Conger's Well to Dungate. Had an early dinner with Frere, and returned along the top of the Fleam Dyke to Shardelows Well, Fulbourn, Cherry Hinton Church, to Cambridge. *Anemone Pulsatilla* in fine flower, and abundant on the Fleam Dyke.

May 1. Commenced my first course of botanical lectures on four days in each week.

May 3. No lecture to-day, so walked with Hiley to Gogs and Woolstreet. *Anemone Pulsatilla* in flower. Saw several patches of *Carex ericetorum* on the last ascent of Woolstreet towards Cambridge.

May 10. Took some of my class to Coton, Whitwell, Madingley Wood, and back. *Paris* in plenty, and full flower.

May 17. With class to Cherry Hinton.

May 24. By rail to Fulbourn with class. Along brook side and Fleam Dyke.

May 29. Concluded my lectures; seventeen and two field in all. Term too short for more.

July 22. Bonney and I went by the new railway to Potton, and visited Gamlingay. The last little bit of the bog was bearing a crop of potatoes. Every spot is so thoroughly under cultivation now that the botanizing is poor. Saw *Arnoseris pusilla*, *Filago apiculata*, *Papaver Lamottei*.

Aug. 6. To Lichfield, to visit T. G. Babington.

Aug. 11. To Bangor. Newbould joined me there.

Aug. 12. We went to Holyhead, and found *Helianthemum Breweri* abundantly by the roadside near the South Stack. Mr. J. Gay, of Paris, joined us at Bangor.

Aug. 13. We three went to "Padarn Villa" Hotel. Found *Isoëtes echinospora* in the lower lake near Ynys, on left bank. Sent fresh specimens of *I. echinospora* to Salter, to be drawn for E. B. S. (N.B.—Sowerby really drew them.)

Aug. 15. To Llyn-y-Cwm. In the smaller lake I got *I. echinospora*. Mr. Gay was very much fatigued by his trip to Llyn-y-Cwm.

Aug. 16. Newbould and I went to Llyndwythwch, (?) and got *Isoëtes lacustris* with curiously hooked fronds.

Aug. 18. Went with Mr. Gay and Newbould to the top of Snowdon. On the descent I left them and examined a part of Clogwyn-ddûr-arddu.

Aug. 20. Went with Newbould to Cwm-y-Glo, and found *Isoëtes echinospora* in the river, soon after it issues from the lakes.

Aug. 21. To Ruthin, to Barnwell's.

Aug. 23. To Chester, Birmingham, and Exeter.

Aug. 24. To Truro, for Cambrian Archaeological Association Meeting.

Aug. 28. Penzance and Land's End.

Aug. 30. Meeting ended.

Sept. 1. Carn Brae, to try and make out more about it, but now not very successful.

Sept. 2. James Graves and I left Truro, and joined Warre and Freeman at Weston-super-mare, to examine Worle Hill. In the evening we went to Freeman's house at Somerleaze, Wells.

Sept. 4. Freeman being unwell, Graves and I went to Glastonbury to see the remains. Ascended the Tor; also spent some time at Wells.

Sept. 13. Returned to Cambridge, and immediately became fully engaged in the arrangements for the British Association Meeting, being one of the local secretaries.

Oct. 1. British Association Meeting commenced at Cambridge.

Oct. 4. Went with a large party by rail to Hunstanton. Found in Holme Marsh *Statice caspia*, *Chenopodium botryodes*, *Blysmus compressus*.

Oct. 6. Dinner at St. John's to a large number of members of the British Association. (N.B.—A great many were placed in rooms during the meeting, and given breakfast in the Combination room and dinner in Hall every day from Wednesday 1st to Wednesday 8th inclusive.)

Oct. 7. A new club, to be called the "Thorough," was inaugurated; the "Red Lions" having fallen into a different set from those who started it under poor Edward Forbes, and supported it for some time after his death.

Oct. 8. The meeting of the Association concluded. Between 1100 and 1200 tickets issued. Very good in all other respects.

1863. *Feb.* 4. Joseph Power gave a dinner to the members and associates of the Ray Club.

Feb. 5. Went to London, to extract matter from Herbarium and papers and books at the British Museum for "Flora of Iceland."

April. This has been a singularly mild winter; no continuous frost, although most nights have been frosty, and continue to be so. The lowest temperature was November 13th, 19°.

April 20. Commenced my second course of lectures.

April 26. Bonney, Hiley and I went to the Woolstreet, and found in flower *Potentilla verna*, *Viola hirta calcarea*, *Carex ericetorum* just producing its fruit.

May 9. Syme came for the day. He and I went to the Gogs, and found *Anemone Pulsatilla*, *Senecio campestris*, *Viola hirta calcarea*, *Potentilla verna*, and *Carex ericetorum*, also *Muscari racemosum.*

May 22. Concluded my lectures.

May 25. Went with some of my class, and also some geologists, to Hunstanton for the day.

June 23. Old houses in St. John's Street, and the "Labyrinth" of St. John's College commenced being taken down.

June 24. Bonney and I went to Bury St. Edmunds, and then to Icklingham, where we found satisfactory quarters at a little inn. We examined the gravel pits close to the village, and at Rampart Field, and obtained a few stone implements from them.

June 25. I botanized, and Bonney again hunted for shaped stones. In the afternoon we met Sir C. Lyell and Mr. Prigg, of Bury, at Rampart Field, and opened an ancient trench, but without much success. Gathered at Icklingham *Apera interrupta*, *Scleranthus perennis*, *Silene conica*, *Veronica triphyllos*, *Medicago minima*, *Silene otites.*

July 13. Bonney and I went to Hunstanton for the day. I botanized on the coast, and in the Holme Marsh. Saw an abundance of the *Statice caspia* in the uncultivated part of the marsh, also *Suaeda fruticosa*, *Triticum acutum*, *Frankenia levis.*

Aug. 12. Left Cambridge, and arrived at John Rigg's house, at the Schools, Shrewsbury.

Aug. 13. Meeting of the Caradoc Field Club at Church Stretton. A very large number present. . . . The day was very hot, and we did little more than ascend Caer Caradoc.

Aug. 14. Rigg and I walked to the marshy ground, below a quarry, on the right-hand of the lane leading to Berwick. The place is just on entering the wood. We there found *Rubus fissus* and *R. suberectus*, also *Agrimonia odorata.*

Aug. 18. Went to Newton Station, and walked over the Breiddan to Criggion, to see L. Darwall.

Aug. 24. To Kington, for Cambrian Archaeological Association Meeting.

Aug. 29. Left Kington at the conclusion of the meeting. . . . Reached Carnarvon, where W. W. Newbould joined me.

Aug. 31. Llanberis.

Sept. 1. We went to Llyn-y-cwm-Ffynnon. Found *Rubus Borreri* and *Arctium intermedium*. Noticed that the *Rubi* ended abruptly at an elevation of 600—625 feet.

Sept. 4. To Llyn Dwythwch, to obtain an observation for the altitude. Saw the hooked state of *Isoëtes lacustris*, as last year.

Sept. 6. *Sunday.* Newbould preached a good sermon at the school-house.

Sept. 23. Cambridge.

Oct. 20. My Botanical Certificate Examination. Thirty-nine men examined: thirty-seven passed, of whom nearly all did very well.

Nov. 10. Went to London, to the sale of the Linnean Society's collections, and returned by mail at night.

Nov. 24. Dined with Lord Powis at the "Clarendon" Hotel, on his Inauguration as High Steward of the University of Cambridge.

Dec. 17, 18. Examining *Rubi* at Kew.

1864. *April* 15. Elected a member of the Council of the Senate in the place of the new Bishop of Ely.

May 16. Went with a few of my class to Hunstanton for the day.

July 28. Went with Hanbury and G. Jones, of Queens', to Hunstanton. We went further along Holme Marsh than I have previously done. We found *Statice caspia*, *S. Limonium*, *S. Bahusiensis*, and *S. occidentalis*, in what was the marsh.

Aug. 17. Left Cambridge.

Aug. 18. To Dowlais House, G. T. Clark.

Aug. 19. Clark took me to an old Manor House (now farm), called Pandy Llanciach.

Aug. 22. To Haverfordwest, for the Cambrian Archaeological Association Meeting.

Aug. 24. To St. Davids with Association. Went to the Head.

Aug. 27. Meeting ended.

Aug. 29. Pembroke Castle and neighbourhood. In the afternoon to Stackpole Court.

Aug. 31. The Bishop of Winchester came for the morning. We went to St. Gowan's Chapel (all round the rocks there, as it was low water), and to the Huntsman's Leap, Stacks, etc.

Sept. 1. I went to look at the encampment at Warren, and came back along the hill by St. Twinnel's and St. Petrox churches; afterwards walked all round the cliffs of Stackpole Warren.

Sept. 2. Lord Cawdor and I walked by Stackpole Quay, along the cliffs to camp at Greenala Point, and the south side of East Freshwater Bay; back by Trewent and Cheriton. The camp is similar to the other coast forts. It has three or four banks, and ditches from cliff to cliff.

Sept. 3. We went to the Broad Haven Sands and sand pit, a remarkable access to a sandy bay through a passage in the hill.

Sept. 4. *Sunday.* Bosheston Church.

Sept. 5. Left Stackpole Court; went to South Wales Hotel, Neyland.

Sept. 6. To Tenby; fell in with Lock, of Trinity, and had lunch at his house.

Sept. 7. To Chepstow.

Sept. 8. To Bath.

Sept. 9. Day with the Fowlers.

Sept. 10. To Swanswick; returned to dine with the Fowlers.

Sept. 11. *Sunday.* Church, and day at Swanswick, with J. Earle.

Sept. 12. To 5, Cavendish Place, to stay during the British Association Meeting with S. Sneade Brown.

Sept. 14. Meeting commenced.

Sept. 15. Balfour and I walked over the hill to Brass-knocker and Aqueduct. Returned along the canal by Bathampton to Bath.

Sept. 17. With large party to Frome. Saw Nunney Castle, which is small, fine, and interesting. A single massive tower, with round corner towers. Took tea with Mrs. Sheppard at Fromefield.

Sept. 18. *Sunday.* Bath.

Sept. 21. British Association Meeting ended.

Sept. 22. Left Bath. To Somerleaze, Wells.

Sept. 29. Evening party at the Bishop's, at Wells.

Oct. 5. To Cambridge.

1865. *Jan.* 19. Commenced removing the Botanical Museum from the old room by the Anatomical Museum to the rooms in the New Museums.

Feb. 5. Went to Oakington, to be godfather to the Rev. W. G. Searle's little boy.

A very cold, bad winter, until April 2nd.

April 13. Took my first walk into the country with Mr. Mudd. To Gogmagogs, Woolstreet, and Cherry Hinton. Saw the *Anemone Pulsatilla* abundantly in flower in the old chalk pit.

April 25. Commenced my lectures in the New Lecture Room.

June 5. Went with ten of my class, E. Thompson, of Christ's, and Mudd, the curator, to Hunstanton. We had a fine day, and succeeded very well.

June 21. Went to Bath. (S. Sneade Brown, 5, Cavendish Place).

June 22. Drove by Coombe Hay, Wellow, Charterhouse Hinton, Midford, and back.

June 23. Drove to Monckton Farleigh and South Wraxhall.

June 25. *Sunday.* Went to both services at Swanswick, and spent the rest of the day at the rectory with the Rev. John and Mrs. Earle.

June 27. Drove over Lansdown to Wyck, and back by Bridge Gate, Old Land Common, and Bitton.

June 29. Went with a large party to Castle Coombe.

June 30. Returned to Cambridge.

July. Was occupied much of this month with the removal of the library of the Philosophical Society from All Saints' Passage to the New Museums, and in fitting up the room for it.

July 17. J. W. Salter came here to draw *Rubi* for me. Unfortunately he was unwell most of the time, and therefore did less than I had hoped; he was here until August 5th.

Aug. 18. To Chester.

Aug. 19. To Liverpool, and by steamer to the Isle of Man, in five hours exactly; more than 600 people on the packet.

Aug. 20. Walked to Kirk Braddon.

Aug. 21. Cambrian Archaeological Association Meeting commenced.

Aug. 25. Meeting concluded.

Aug. 26. Botanized near the town of Douglas. Left by steamer for Dublin.

Aug. 27. *Sunday.* Went to the morning service at St. Patrick's Cathedral. A very large congregation, but constant moving about allowed on the outskirts all the time.

Aug. 28. Exhibition and Royal Irish Academy.

Aug. 29. To Drogheda and New Grange with Lloyd Philipps.

Aug. 30. Philipps left. I went to Glasnevin Garden to D. Moore. With him and Capt. Hutton to Phœnix Park, where

we found *Hedera canariensis* growing on trees in a wild part, and really a native. Dined with Capt. Hutton.

Aug. 31. Exhibition again. Dined with Sir William Wilde. Left Dublin—to Holyhead.

Sept. 1. To Llanberis. "Padarn Villa" Hotel.

Sept. 2. Walked round the lake and got *Rubi* for Salter.

Sept. 4. With Hugh Lewis to a spot high up on the further side of the mass of mountain which projects into the pass on the left side to see *Asplenium alternifolium*. He shewed me one small plant of it, and knows of another. Saw plenty of *A. septentrionale*.

Sept. 5. Went to Birmingham for the meeting of the British Association. Breakfasted, and often dined, at Mathew's house during the meeting.

Sept. 13. Cambridge.

Oct. 1. *Sunday.* We dined for the first time in the new Hall of St. John's College.

Oct. 5. To Bath.

Oct. 8. *Sunday.* Spent it at Swanswick with Earle.

Oct. 9. To Bristol to see the Clifton Suspension Bridge. Saw remarkably fine *Rubus idaeus* in Leigh Woods.

Oct. 10. Went with S. Sneade Brown, Mr. and Mrs. Joseph Brown, and A. M. W. to Salisbury, where we saw the Cathedral well, then to Old Sarum, which we also fully examined; then heavy rain came on, and we could not go to Stonehenge, as was intended, but were detained at the little inn until it was time to return through heavy rain to the railway, which took us back to Bath.

Oct. 13. Returned to Cambridge.

Dec. 9. To Bath, to Richard S. Fowler's, 6, Belmont.

Dec. 26. To Cambridge.

1866. *Jan.* 3. To Bath, to stay at R. S. Fowler's house.

Feb. 2. To Cambridge.

Feb. 19. Earle came to stay with me in St. John's College until Friday, 23rd.

March 29. To Bath, to R. S. Fowler's.

April 3. *Easter Tuesday.* Married at Walcot Church, Bath, to my very dear Annie. . . .

April 24. To Cambridge.

April 26. Commenced lectures with about forty-five men.

May 6. Dined in St. John's Hall for the first time as a guest of the College.

May 30. Went to Linton with some of my class, to the Furze Hills, Rivey Wood, Bartlow Hills, and Essex side of brook.

June 21. To Stapleford, to examine some stone coffins in the church. We took two very short skulls from them for the Anatomical Museum.

July 5. We went to Brandon to meet the Norfolk Archaeologists.

Aug. 21. We went to Glan Hafren, Montgomeryshire, to visit Canon and Mrs. Herbert.

Aug. 27. To Machynlleth.

Aug. 28—31. Meeting of the Cambrian Archaeological Association. I had to take the chair on each evening because the President, Lord Vane, did not qualify or shew himself to us.

Sept. 1. To Dolgelly.

Sept. 4. Llanberis.

Sept. 8. We went up Snowdon.

Sept. 12. To Penmaenmawr.

Sept. 17. Walked from Conway to Pen-y-Gaer; it is a grand hill fort, with stones fixed in the ground, outside the trenches. The inner trench has had a stone wall over it.

Sept. 18. We went to Rugeley to visit Mrs. Bonney and family.

Sept. 21. To T. G. Babington, Lichfield.

Oct. 2. To Allestree Hall, T. W. Evans.

Oct. 4. Cambridge.

1867. *Feb.* 15. We went to Somersham to spend a few days with Dr. and Mrs. Pinnock. Drove over by way of Earith where the Ouse had flooded the washes of the Hundred Foot.

Feb. 16. I returned for the day to attend the prelections of candidates for the Greek Professorship.

May 6. Commenced my lectures.

May 20. Went to London as one of a deputation from the Council to the Representatives of the University, about the right of the members of the University to vote for M.P.'s.

June 3. Concluded my lectures.

July 1. We went to St. Margaret's, Southelmham, to visit the Holmes'.

July 2. To Shipmeadow and the Marshes.

July 5. To Flixton Marshes.

Aug. 8. To Sir C. Lighton's at Ellastone.

Aug. 9. To Alton Towers, and were greatly pleased with the fine gardens and grounds.

Aug. 10. To Dovedale. A magnificent day for that beautiful place.

Aug. 12. To Hereford for the Cambrian Archaeological Meeting.

Aug. 17. The meeting ended.

Aug. 19. To Glan Hafren to visit Canon and Mrs. Herbert, and continued there until September 3rd. To Swansea, by Llanidloes, Brecon, and the newly opened line (at an elevation of c. 1300 feet).

Sept. 4. To Ilfracombe, a rough sea.

Sept. 6. To Barnstaple and Bideford.

Sept. 7. Drove to Clovelly and walked through the grounds of the court. We found *Senecio squalidus* on a wall in the town of Bideford.

Sept. 9. To Exeter and Penzance.

Sept. 10. Walked along the coast to Mousehole, and back by the lanes.

Sept. 11. Drove to the Logan Rock and Land's End.

Sept. 13. To Falmouth.

Sept. 14. Walked through the town of Falmouth, and up the water to Penhryn, and back by the inland road.

Sept. 18. We went with Mr. and Mrs. Newmarch to the Lizard, by Constantine and Gweek, and through Trelowarren Woods. Visited Kynance Cove and the Lizard Head. Dined at the Hotel, and returned by Helston, where our friends left us to go back alone.

Sept. 20. Went by rail to Perranwell Station; walked by Sticken Bridge, up the valley, along the south side of Edgecombe Down Woods to entrance to Carclew. Back by the road through the woods to the head of the estuary, and to the station again. Found a small quantity of *Erica ciliaris* on the left hand of the latter road and in the wood there. Also found *Lastrea aemula.*

Sept. 23. To Totnes. Drove to Berry Pomeroy Castle. Fine situation, but the building of very little interest.

Sept. 24. By steamer down the Dart to Dartmouth; the river is not nearly so fine as is reported. To Torquay.

Sept. 26. To Tiverton, to visit Mr. Hudleston Stokes.

Oct. 1. To Salisbury.

Oct. 2. Drove to Stonehenge and Wilton.

Oct. 4. Cambridge.

Oct. 14. Went to Whittlesford, for Mr. G. N. Maynard to shew me the station of *Aristolochia Clematitis.* It grows in a garden and hedge on the right-hand of the first road to the left of the road leading to Mickle Moor. Went then to call at Pampisford Hall, and walked home by Babraham and the Gogs.

Nov. 21. We went to Kew, to visit Dr. and Mrs. Hooker, and returned from them on the 25th. To Cambridge.

1868. *Jan.* 28. Talbot Bury came to stop with us, about the new St. Barnabas Church.

Jan. 30. He and I went to Ely.

April 23. Commenced my lectures.

May 13. Walked with pupils up the Everton road, to Snow Hill, by Bunker's Hill to Stratford and Sandy. Dined together at the "Greyhound."

June 3. To London, to Mr. Newmarch's, Clapham Common.

June 10. I went with Mr. Newmarch to see the London Sewage Manure Farm in Essex. Dined with Mr. Hope. Obtained in one season 80—100 tons of Italian rye grass by the use of 5—6000 tons of sewage, from a barren, gravelly soil.

June 11. We attended the Palestine Fund Meeting at Willis' Rooms.

June 16. To York. Spent the evening with James Backhouse, junr.

June 17. Lunched with Canon Hey.

June 18. We went by way of Thirsk to Ripon, and there took a carriage to Studley Park, and walked through the grounds to Fountains Abbey. The most remarkable part of the ruins is the crypt, under what was the dormitory of the monks. The cathedral at Ripon is small, but interesting, and of good architecture. We saw Wilfrid's Needle under the church, the use of which is unknown. Returned by Knaresborough.

June 19. To Filey.

June 22. It is remarkable that there are absolutely no maritime plants on this coast: the crumbling clay of the hills seems to prevent it.

June 23. Went by steamer to Bridlington, passing close under the cliffs of Flamborough Head. Visited the town of Bridlington Quay. Walked by the coast to Flamborough, and to the little bay called North Sea.

June 25. Went to a little valley (Primrose Valley) to the south of the town, half-a-mile or so, and found *Geranium sanguineum* abundantly.

July 2. Went to Lincoln by way of Hull.

July 3. Spent most of the day with the Rev. E. and Mrs. Venables (Precentory).

July 4. To Cambridge.

July 7. Went for the day with J. T. Moggridge to Hunstanton. *Statice caspia* in flower.

July 9. Went with him and Mudd to Wicken Fen. . . . . Saw wheat cut in a field near Milton. We did not find *Aster salignus*, from a mistake.

July 12. I went to London, to be photographed for the Royal Society picture, by Edwards.

Aug. 25. To Portmadoc, for Cambrian Archaeological Association.

Aug. 27. We drove up the vale from Llanbedr to Cwm Bychan, which is well-wooded and exceedingly beautiful. Ascended the famous steps in the Bwlch-y-Tyddiad, mis-named by some of the party Bwlch-y-Drws-Ardudwy, which is at the head of the other branch of the valley.

Aug. 28. To Eriri Mons.

Aug. 22. To Criccieth, to conclude the meeting.

Aug. 31. To Llanberis.

Sept. 1. In our old lodgings with Mrs. Griffiths.

Sept. 5. Went up Snowdon, and descended to the top of the Llanberis Pass.

Oct. 9. Cambridge.

Oct. 15. Went to see the effects of the whirlwind at Shelford. It blew down the parapet of the railway bridge, for thirty feet, and twisted off about forty large trees.

1869. *March* 22. We went to Bath.

March 31. We spent the day at Melksham with the Barnwells. Drove to South Wraxhall Hall and Great Chalfield.

July 1. We went to visit Mr. and Mrs. Hort at St. Ippolyts.

July 3. Saw the old chestnut at Little Wymondley.

July 4. *Sunday.* Morning at Great Wymondley; afternoon at St. Ippolyts.

July 6. We spent the day at Hunstanton with Professor and Mrs. Cowell.

July 20. To Cockfield Rectory (Churchill Babington), for Royal Archaeological Institute at Bury.

July 22. Dined at Hardwick House with Lady Cullum.

Aug. 5. We left home for the autumn, and arrived at Somerleaze, to visit Mr. and Mrs. Freeman.

Aug. 6. Spent the day at Wells, about the Cathedral, etc.

Aug. 7. Visited Glastonbury.

Aug. 8. *Sunday.* Wookey Church and Wells Cathedral.

Aug. 9. We went to Bridgend, for the meeting of the Cambrian Archaeological Association; on our way we had time for a visit to St. Mary Redcliffe Church, Bristol. The Earl of Dunraven asked us to Dunraven Castle, but we could not stay there because of its distance from the town. The meeting ended on the 14th, when we went to Pembrokeshire.

Aug. 19. I went to Burton, to try and find some avenues of stones observed by Sir G. Wilkinson; hoping to find the Rev. J. Tombs at home, and be guided by him to the place, as my information concerning it was very imperfect. I did not find him, and so saw nothing of the stones.

Aug. 23. We went to Maentwrog.

Aug. 25. Spent the morning most pleasantly in the woods of Plâs Tan-y-Bwlch. Saw there *Rubus suberectus.*

Aug. 26. Drove to Beddgelert. Met there Van Voorst, W. Francis, and David Forbes.

Aug. 28. To Llanberis.

Aug. 31. We went with Canon and Mrs. Crosthwaite (of Leeds) by car to the foot of Cwm Patric, and then walked up it to Twll Du, and returned by the other way.

Sept. 2. Walked with the Crosthwaites to Bwlch-y-Maes-Cwm. A beautiful day, and magnificent views. A. G. More came to us for a few days.

Sept. 27. Went to Capel Curig, and Bettws-y-Coed, to Mrs. Hughes, Llugwy Cottage. Walked to Ffosnoddyn (Fairy Glen), just beyond the junction of the Lledr with the Conway; there the river rushes through a narrow and deep cleft in the rock. It is a beautiful spot. Went on along the river bank by a very rough path to a fine rapid at about half-a-mile from this, up the Conway, and had much trouble in getting up to the old road. Along that to the fall of the Conway, near the junction of the Machno with it. Then to the junction, and home.

Sept. 29. By train to Llanrwst. Walked to Gwydir, and went over the house, which is very dark, and full of old oak carving. . . In the afternoon to the moor on the top.

Sept. 30. To Dolwyddelan Castle.

Oct. 1. Ascended the very steep path through the wood to Llyn-y-Parc, and returned by the back of the hill to the Pont-y-Pair at Bettws.

Oct. 2. Drove to Corwen. By rail to Shrewsbury.

Oct. 3. Breakfasted with Mr. Moss, and dined with the Riggs, at the Schools.

Oct. 4. Went to Ludlow and back. Saw the castle, church, etc. Went to the Riggs' in the evening.

Oct. 5. Cambridge.

Oct. 9. A. G. More came to visit us, and left again on the 13th.

1870. *Jan.* 20. Went to London to communicate my "Iceland Flora" to the Linnean Society.

April 8. We went to Bath. Finished correcting proofs of "Iceland Flora."

April 21. Dr. W. Fairlie Clarke and Caroline Walker were married at Walcot Church.

April 28. Commenced lectures; also Lectures to Women on two days in each week in addition.

May 11. Talbot Bury came to us until the 14th.

June 6. E. A. Freeman came to us for a few days.

June 8. We went with Bonney to Willingham, by High Bridge (in ruins) to Haddenham, Witchford, and Ely, to see the country of Hereward's exploits.

June 11. Freeman left us, and Talbot Bury came.

Aug. 11. We left home. Arrived at Canon Herbert's, Glan Hafren, Montgomeryshire.

Aug. 16. Arthur Hughes and I attended to the opening of a trench across the Roman Road in the field westwards of the front of this house. We found a marked bed of gravel, although thin, laid upon the naturally dry stony soil.

Aug. 23. To Holyhead. Cambrian Archaeological Association Aug. 24—26.

Aug. 27. Went with Barnwell to stay with the Rev. Hugh Pritchard at Dinam Hall. We left the train at Bodorgan Station, and visited a remarkable British town, also Hen Blas cromlech.

Aug. 28. *Sunday.* Went twice to the Welsh service at the church near Dinam.

Aug. 29. Visited a large chambered cromlech, and left for Chester by train from Caer Wen.

Aug. 31. To Lancaster.

Sept. 1. By train to Furness Abbey Hotel. We examined the ruins of the abbey.

Sept. 2. To Windermere, Ambleside, and Grasmere.

Sept. 5. To Coniston.

Sept. 6. By train to Drigg. Took car to Wastdale Head, and returned the same way. We had a very fine day, and the mountains were magnificently seen.

Sept. 7. To Keswick.

Sept. 11. *Sunday.* Heard the Rev. J. C. Ryle preach twice at St. John's Church.

Sept. 13. Met the Rev. James Coleman, of Allerton Rectory, and went to Crosthwaite Church and other places near the town with him. He dined with us.

Sept. 14. We went by the coach to Borrowdale, over Honister Pass to Buttermere (we had to walk over the Pass), took a boat across Crummoch Water to the Scale Force, then walked to the top of the Pass to Newlands, and back to Keswick. Mr. Coleman went with us. An enormous quantity of *Alchemilla alpina* on the Buttermere side of Honister Pass.

Sept. 19. We drove through the Vale of St. John's to Thirlmere and back. We saw the Druid Circle on the way. It has a curious rectangular enclosure on one side, too large to have been covered by stones.

Sept. 21. To Ulleswater Hotel, Patterdale.

Sept. 22. We went by the steam-boat to How-town, on the east side of the lake, and walked back by a track along the hillside by the lake. We first went behind Hallin Fell, to Sandwick, then through some meadows and woods at the edge of the water, and afterwards along a path cut out of the steep slope of the mountain. The view was beautiful, and the quantity of *Allosorus crispus* very great; also there was a little *Polypodium Dryopteris* and *Alchemilla alpina*. Many juniper bushes are on the side of the mountain.

Sept. 23. We went by a car to the top of Kirkstone Pass, and walked back. It is certainly the finest valley that I have seen in the Lake Country. When we got to where the road passes to the west side of the valley, we followed the lane and track on the eastern side, and crossed to the other side at Patterdale. That way is far pleasanter than the coach road.

Sept. 24. We drove three miles up Grisedale, then walked to Grisedale Tarn, and back again along the other side of the valley, and at the lower end crossed the hill to Glenridding. A most beautiful day, and a most beautiful and interesting walk.

Sept. 25. *Sunday.* Twice to Patterdale Church.

Sept. 26. Drove to lower part of Deepdale, walked to near the head of the dale, then along and over the hill to Patterdale Hotel, and home. We were much pleased with the wild valley and the views along the top of the mountain on our return.

Sept. 27. By car to Penrith, and train over the high land of North Yorkshire, to Durham.

Sept. 28. At Durham.

Sept. 29. York.

Sept. 30. To Whitby and back. Spent most of the day there.

Oct. 1. To Beverley and back, to see the Minster.

Oct. 3. Cambridge.

Nov. 7. Went out of the Council of the Senate.

1871. *April* 20. Commenced lectures.

May 23. Finished my course of twenty lectures.

June 7. Mrs. E. Harold Browne laid the foundation-stone of the Cottage Home for Little Orphan Girls. I had to address the assembly on the ground. Talbot Bury (architect) came to attend. All went off very nicely. £17 4*s.* 8*d.* was taken at the gate. We had twenty-two at luncheon, and gave dinner to the St. John's Chorister boys.

June 17. To lodgings at Gipsy Hill, Norwood, for the Handel Festival. Mrs. Herbert and Arthur Hughes joined us.

June 18. *Sunday.* Heard the Bishop of Winchester (Wilberforce) preach at the church at Gipsy Hill.

July 7. Found the *Siler trilobum* on the back bank of the excavated part of the field to the south of the Chalk-Pit-Close at Cherry Hinton.

July 10. Dr. Trimen and Mr. W. J. Thiselton Dyer came, and I went with them to Cherry Hinton to gather *Siler*, and also found *Seseli Libanotis*, *Bunium Bulbocastanum*, and the other usual plants of that place. They left in the evening.

July 12. Went to Tuddenham with W. Walton and Latham, of Trinity Hall, and Brown, J. Mills, and Dr. White met us there. The Fen is a very good place for plants—*Cladium*, *Schoenus nigricans*, *Epipactis palustris*, *Orchis latifolia*, and others. On the heath near the angle of a turf-wall on the way to Temple Bridge was plenty of *Tillaea muscosa*.

Aug. 1. To Edinburgh. Miss Selwyn and Miss Rogers lodged with us for the Meeting of the British Association, and until the 14th.

Aug. 4. Dined with Dr. Christison. A. G. More was with us for some of the days of the Meeting.

Aug. 7. We drove to Craigmillar Castle.

Aug. 11. Saw the museum of the Society of Antiquaries.

Aug. 12. Lunch with Dr. Balfour. Dined with Joseph Goodsir.

Aug. 15. To Dunkeld.

Aug. 16. We went over the Cathedral and grounds of the Duke of Athole.

Aug. 17. To Pitlochrie, and drove up the south side of the Tummel as far as the lake of that name. The road passes along a terrace above the windings of the river, through woods of birch (chiefly) and is very beautiful. We crossed the lake by a ferry, and back along the Rannoch road to the Pass of Killiecrankie, through which we walked along the old military road to Blair Athole.

Aug. 19. By the Highland Railway to Elgin.

Aug. 21. To Pluscardine Abbey. The steps from the church to the dormitories are curious, also much alteration in the buildings after some ruin in old times. Spent also much time at the Cathedral. Fine Early English work with Decorated repairs, which in the quire are under the Early English clerestory. Saw also the Grey-friars' Church, quite in ruins, and of no particular interest.

Aug. 22. To Forres. Went to Sweino's Stone. Nothing else of interest there.

Aug. 23. To Inverness. Drove to the foot of Craig Phadric and walked to the top. The holes in the banks where the vitrification was exposed are nearly spoiled by visitors.

Aug. 24. To Dingwall. A wet day, and a storm of wind in the evening; nevertheless, we walked almost to Strathpeffer in the rain.

Aug. 25. Went to Strome Ferry and back. From the top of a hill to the west of the inn at Strome we had a good view of Skye.

Aug. 28. Drove by Contin Bridge to Contin and Loch Achilty, where we saw *Trientalis* close to the lake side; then to the falls of Rogie, and returned by Strathpeffer.

Aug. 30. To Oban by the canal.

Aug. 31. To Dunstaffnage Castle, and the Early English Chapel there, also as far up Loch Etive as the race.

Sept. 1. To Glasgow by the Crinan Canal.

Sept. 2. Visited the Cathedral, and left for Edinburgh.

Sept. 4. To Melrose. Visited Abbotsford, Dryburgh, and Melrose.

Sept. 5. To Carlisle.

Sept. 6. Home.

Oct. 24, 25, 26. Bazaar for the Cottage Home for Little Orphan Girls at the Guildhall. Took £470.

Dec. 12. To the Society of Antiquaries to see the stone implements.

Dec. 14. Dined with Franks to meet J. Evans, Colonel Lane Fox, and others.

Dec. 17. *Sunday.* To St. Paul's, to hear Canon Liddon.

Dec. 20. Stanley Howard, of St. John's, came to us to be taken care of until he had recovered from a bad haemorrhage on the lungs.

1872. *Jan.* 1. Opened Cottage Home for Little Orphan Girls.

Feb. 21. We went with Stanley Howard in an invalid carriage to London and Tilbury, and crossed the river at Gravesend.

Feb. 22. We placed Stanley Howard on board the "Lincolnshire" (1100 tons), for Melbourne. He has state-room number 10 on the larboard side of the ship. We saw him nicely established in it, with all his things conveniently about him. He passed through the change singularly well. We returned home.

March 16. *Anemone Pulsatilla* was in flower on the Fleam Dyke. A very heavy fall of snow in the last week of March. This year the whitethorn was in flower on May 1st; nevertheless, I had much difficulty in getting flowers for lectures.

May 6. Mr. and Mrs. Charles Smith came to stay with us.

May 11. They left us on their way to Teneriffe.

May 23. Mr. E. A. Freeman, having been appointed Rede Lecturer, came to stay with us.

May 27. Mr. Freeman left.

June 10. To Uckfield.

June 20. To Canterbury (Fountain Hotel), and carefully examined the Cathedral and St. Augustine's College, and attempted, without success, to get into St. Martin's Church.

June 21. Breakfasted with the warden, Dr. Bailey, at St. Augustine's College. To Margate. Walked along the coast towards Fore Ness. Saw plenty of *Crepis taraxacifolia* and *Lepidium Draba.*

June 22. Home.

Aug. 2. To London.

Aug. 8. We spent the afternoon and dined with the Hookers, at Kew.

Aug. 26. We left home for the Cambrian Archaeological Meeting at Brecon. Started at 8 a.m., arriving 5 p.m. We both went to the evening meeting, which was very well attended.

Aug. 27. Excursion by rail to Talgarth, Bronllys Castle, Llechrhyd, and Builth. A beautiful day, and a very beautiful country on the banks of the Wye.

Aug. 28. Visited the museum and the town walls. In Mr. George Overton's carriage to Llanddew. Then walked over the fields to Peylyn-Gwyn and Llandefailog Church; then to Pennoyre to lunch with Mr. M. J. Rhodes. Then home to evening meeting.

Aug. 29. Drove in Mr. Overton's carriage to Crickhowel. We went through the fine grounds, and by the private drive just above the river Usk for several miles, and returned through the grounds of Buckland. We saw four or five of the early inscribed stones, amongst them a newly-found stone in the wall of Llandetty Church. Lunched with Sir Joseph Bailey at Glan Usk Park.

Aug. 30. Visited the town. Lunched with Garnons Williams, of Abercamlais.

Aug. 21. Left Brecon and went to Glan Hafren to visit Canon and Mrs. Herbert.

Sept. 6. To Barmouth.

Sept. 7. By the sands to Llanaber. The further you get from Barmouth the better get the sands. Llanaber is a small Early English church, well repaired. It has a nave, clerestory, and side aisles, and long chancel. There is one of the early monumental stones in the church, fixed to the wall.

Sept. 8. *Sunday.* To the church at Barmouth twice. Service rather too high to please us.

Sept. 10. To Portmadoc. Went to Criccieth, and, although it rained in torrents when we arrived there, we went to the castle. . . A beautiful view of Snowdon from high land above the harbour.

Sept. 12. Beddgelert.

Sept. 14. Llanberis.

Sept. 18. We walked up the Quarry road, and then along the top of Yr-Alt-wen, and down again by a path through the wood. Professor and Mrs. Cowell walked over from Bethesda, by St. Ann's and Cefn-y-waun, to look after lodgings.

Sept. 19. We went round the lake and found what may be *Callitriche obtusangula* on the other side, near the railway.

Sept. 21. This morning opened with heavy storms of rain, and one severe hailstorm. There was snow on the higher hills, such as Snowdon, Glydir, and Garn. So, during the day, there was rain, hail, snow, and fine sunshine.

Oct. 4. A heavy fall of snow on the mountains; much more than on Sept. 22nd.

Oct. 11. Cambridge.

Nov. 28. Sprained my arm at the museum very badly.

1873. *Jan.* 19. Barometer fell one-and-a-half inches in twenty-four hours, down to 28·50°. There were several more sudden changes of not quite so great an extent in Jan. and Feb.

April 2. To Bonchurch, Isle of Wight.

April 14. Went along the Shanklin Road, turned up on to the Down, and examined it carefully. Saw much of the true *Ulex nana* there.

April 21. Commenced my lectures.

May 23. Finished my lectures.

June 17. To Ellastone, to visit Sir Christopher and Lady Lighton.

June 20. To Alstonfield, to see my old friend, the Rev. W. H. Purchas (formerly of Ross). We went by Ashbourne, Tissington, Mill Dale, and returned by Ilam and Okeover. He lives in a very wild and interesting country near the upper course of the Dove; nice in summer, and not so in winter.

Aug. 4. Went to Knighton for the Cambrian Archaeological Meeting.

Aug. 9—18. At Glan Hafren with Canon and Mrs. Herbert. To Llanberis, to stay a few days at Plâs Tirion with Professor and Mrs. Cowell.

Aug. 23. To Dublin. Salt Hill Hotel, Kingstown, with Canon Cory.

Aug. 24. *Sunday.* To Townsend Street Church morning and evening. To the school at the same place in the afternoon. Much struck by the number of old people attending, and answering well. Heard Dr. McCarthy teach the whole school. Most interesting.

Aug. 25. We visited the schools (Irish Church Missions) in Luke Street, Townsend Street, and Lurgan Street. After dinner we went to the Bird's Nest.

Aug. 26. We spent all the morning at the Bird's Nest. Cory examined the children, who answered admirably. Took tea with Mrs. Smyly.

Aug. 27. We went to the Coombe Schools, but, unfortunately, the boys were away. Much pleased with the state of the whole place. Afterwards to the Grand Canal Street Boys' Home. The boys themselves admirable, but the place in not so satisfactory a state as the other institutions which we visited.

Aug. 29. To Galway.

Aug. 30. Canon Cory and we went in a closed carriage to Spiddal, to see the institution there. We had a beautiful drive along the coast, and saw the Clare Mountains and Aran Isles in the distance; then across the country to Moycullen, and so to Oughterard, where we lunched. . . . . To Clifden. Walked to the orphanage in the evening.

Aug 31. *Sunday.* Canon Cory preached. Went to evening service at Ballyconree, going over the hill above Clifden Castle. Had a magnificent view of the Atlantic and its bays.

Sept. 1. Walked along the shore-road with the Rev. W. D. Austen. A beautiful view of the "Pins" from the monument. Spent much time at Glenowen Orphanage. We had two nice teachers and Mrs. Batty and Mr. and Mrs. Austen to tea.

Sept. 3. We went to Roundstone, and by the mission boat to Moyrus. It is a wild rocky place with a nice new church, parsonage, and schoolhouse. All poor people, and very much shut out from the world. We had a most interesting day there with the children and the clergyman's family. We did not get back to Clifden till about 11 p.m., for the wind fell as we were crossing. It reminded me greatly of the Sound of Harris in Scotland.

Sept. 4. Went to breakfast at Errislannon, at the Rev. B. Irwin's. To get there we walked along the shore, and crossed in his boat. It took a long time as the tide was very low, and against us. Drove out in the evening to Derrygimla, Errismore, to hold a meeting, and to have a lecture from Cory in the schoolroom. The clergyman is the Rev. Mr. Ryder, who was once a priest. It was a most interesting visit, very similar to that at Moyrus, and of quite as missionary a character.

Sept. 5. Examination of the teachers and agents by Canon Cory and Dr. McCarthy. . . . I dined with the clergy at Glenowen. An admirable dinner, cooked by the orphans, who also waited upon us. Afterwards went to tea at Mr. D'Arcy's sisters' (Mrs. Livingstone and Miss D'Arcy), who live in a nice house at a mile off by the sea.

Sept. 6. We drove to Kylemore, lunched at Casson's Hotel, at Letterfrack, then went to Cleggan school-treat.

Sept. 7. *Sunday.* Heard Cory at Ballynakill Church, Cleggan Schoolroom, and Sellerna Church.

Sept. 8. Called upon a poor man, Martin Clisham, who has been much persecuted for becoming a Protestant. Dined with Mr. and Mrs. D'Arcy.

Sept. 9. To Roundstone, where we got nice quarters, and walked out in the afternoon. It is a clean and good hotel.

Sept. 10. We walked to the "Beaches," which are at about one-and-a-half miles along the coast. Beautiful granitic sand.

Sept. 11. Went by car to Craigie More to look for *Erica ciliaris*, but without success. Found abundance of *E. Mackaiana* for more than a mile along the road, and extending back as far as I could easily get.

Sept. 12. Again to the Beaches. We now found the further one, and went on to the rocks facing the west beyond them.

Sept. 13. We went by the mission boat to Moyrus (Rev. J. Conerney).

Sept. 14. *Sunday.* At church at Moyrus. Part of the service in Irish.

Sept. 15. We gave a treat to the school children at Moyrus; and walked on the beautiful beach of granitic sand.

Sept. 17. A gale of wind. Mr. Conerney took us back in his "Croydon" to Roundstone, by the road round the head of Birturby Bay, as the boat could not go.

Sept. 19. The only really wet day which we have had in Ireland. We could not get out at all.

Sept. 20. Went in the morning to the lake called Creg-duff, to hunt for *Naias*, but the water was so high, that I could not find it. I found *Eriocaulon* abundantly. At Roundstone we found at the hotel a young girl named Biddy Lavelle, who had been at the Mission School, but taken away by the priests. She had learned much there, and we took much interest in her. She has a sister, a convert in service in England. We hope that something may be done for her.

Sept. 23. Left Roundstone, and went by Loch Inagh to Lenane. A beautiful drive.

Sept. 24. To Westport.

Sept. 25. Dublin.

Sept. 26. Went to Glasnevin, and lunched with Dr. and Mrs. Moore, and saw the garden thoroughly.

Sept. 27. To Bray, then by car to Powerscourt Waterfall, and on our way back walked through the Dargle.

Sept. 28. *Sunday.* At Church in Townsend Street morning and evening, and at the Sunday School there.

Sept. 30. Left Dublin. A very rough passage to Holyhead.

Oct. 1. Reached home.

Oct. 27. I was elected President of the Cambridge Philosophical Society.

Nov. 15. Dr. J. H. Balfour came from Edinburgh to visit us. I presided at the dinner of the C.P.S. at Peterhouse Hall.

Nov. 20. Balfour left for Edinburgh.

Dec. 4. I presided at a very large Prayer Meeting in the small room at the Guildhall, to supplicate for Missions.

1874. *March* 7. The Rev. Dr. C. F. McCarthy came to stay with us, for the Irish Church Mission Meetings.

March 9. I took the chair at the I.C.M. Meeting in the Guildhall. Snow.

April 21. Commenced lectures. Admitted lady students for the first time.

July 6. We went to Hunstanton in company with Professor and Mrs. Cowell, and Miss C.

July 7. Cowell and I went along the coast, and saw plenty of *Statice caspia* on the marshy ground between the sandhills, and on the more distant part some fine masses of *Suaeda fruticosa*.

July 15. To Sandringham and Castle Rising.

July 17. Home.

Aug. 24. I went to Wrexham for the Cambrian Archaeological Meeting.

Aug. 26. We spent at Chester. Hort and I lunched with Dean Howson.

Oct. 26. Re-elected President Philosophical Society.

Nov. 17. Dr. Barnardo came to hold meetings for East London Juvenile Mission. There was an enormous meeting in the Guildhall.

1875. *April* 15. Commenced lectures.

May 18. Concluded lectures. The smallest class that I have had.

July 7. To Cromer.

July 8. . . . The whole coast is a range of crumbling banks, miscalled cliffs, of gravel and sand, which cover the shore with loose sand and shingle, and do not allow of roads to the shore.

July 14. Runton Church; is fine Perpendicular, with the windows modernized, and rather spoiled. The south aisle is rather later. There is a piscina, with a curious ambry opening out of it.

July 19. Canterbury. Royal Archaeological Institute. I am the guest of the Warden and Mrs. Bailey at St. Augustine's College. The Rev. G. Williams, Mr. Beresford Hope, and Mr. Hammond R. Bailey were also there.

July 20. Walked round the city, but saw very little. Had a nice talk with Sir G. G. Scott.

July 22. We went to Richborough and Sandwich. The former a very fine Roman town: the walls almost perfect, except on one side. There is a curious platform in the middle with a + upon it rather more raised. Walked to Sandwich, a poor decayed town, with three interesting churches, and a very curious chapel.

July 23. An admirable discourse by Venables in the Cathedral. Thunderstorm prevented our hearing Parker on the other buildings, and the outside. At 9.30 we went to the Cathedral for some music. The building was beautiful, in the very imperfect light of two or three candles.

July 24. To Westenhanger (old house), Lynne (the Roman station), Hythe (the church), and lunch with the Mayor, and Lyminge, where there are the remains of a seventh-century (?) church on the south side of the present church.

July 26. Excursion to Dover, etc.

July 27. Left Canterbury.

July 30. Cambridge.

Aug. 2. Cromer.

Aug. 6. Went with some of the party from Colne House to the boggy common at Beeston, where we found a considerable number of bog-plants, such as *Parnassia*, *Epipactis palustris*, *Anagallis tenella*, etc.

Aug. 16. By way of Shrewsbury, to the Palace, Abergwili, Carmarthen, for the meeting of the Cambrian Archaeological Association.

Aug. 18. Had a very interesting day, and tolerably fine in the country towards the Precilly mountains. We were chiefly occupied with earthworks and stones.

Aug. 20. To Kidwelly, to see the church and castle: to Llandilo, to visit Dynevor Castle.

Aug. 24. To St. Davids, with Barnwell, and the Rev. D. R. Thomas, to stay with the Rev. James Allen, the Chancellor. Spent all the afternoon in the study of the Cathedral and ruins. Much progress has been made in the repairs of the former.

Aug. 25. To St. David's Head, and carefully examined the ancient stone fortifications, and circular foundations there. On the way we saw four sculptured stones in the walls, near to each other; one of them new.

Aug. 26. We left St. Davids.

Sept. 3. To Cromer.

Sept. 9. Had a walk along the east shore with Mr. Joseph Hoare and Canon Conway. We found the remains of a large tree of the submarine forest.

Sept. 10. Jani Alli came to stay with us.

Sept. 15. Church Missionary Meeting in the evening. Dined at Colne House for it. Jani Alli spoke very nicely.

Sept. 20. Walked by the cliff to Beeston Church and the bog (Beeston Common), and catalogued a number of plants there.

Sept. 30. Home.

Dec. 14. Mr. Gustave Masson came to us to Dec. 22nd.

1876. *March* 13. The Rev. D. B. R. Banham and I appointed joint secretaries for the Cambridge Local Association of Irish Church Missions.

May 31. Went to the Gogs with Mr. T. B. Blow, and found *Carex ericetorum* in tolerable abundance in the old place, also many of *Anemone Pulsatilla* and *Senecio campestris* in the pit under Little Trees Hill.

July 13. To Cromer.

July 15. Went to East Runton to take rooms for the children of the Cottage Home at the farm of Mr. F. Abbs.

July 27. We took the Cottage Home children to have tea on the Black Beacon Hill, and invited Mrs. Mortimer's eight orphans to join them. They were all very happy, and the evening went off very well in all respects.

July 29. Found very many plants, and added a few (such as *Silene noctiflora*) to my list.

Aug. 14. To Abergavenny, Cambrian Archaeological Meeting.

Aug. 15. Excursion to Llanthony Priory.

Aug. 16. A very long excursion from 9 a.m. to 8.20 p.m. Visited White Castle and Church, Skenfrith Castle and Church, and Grosmont Castle, and the beautiful Church there.

Aug. 18. Saw two beautiful rood-lofts and screens at Bettws Newydd and Llangwn. Visited the Priory Church at Usk, and Raglan Castle. Concluded the meeting in the evening. It has been a most successful one, although without the support of any local magnates.

Aug. 19. Left for Somerleaze, near Wells, to visit E. A. Freeman.

Aug. 20. *Sunday.* Went to church twice at Wookey. James Allen and his daughter, from St. Davids, came here on Saturday.

Aug. 22. Dined at the palace with the Bishop of Bath and Wells, and there met Sir C. and Lady Bunbury. Professor and Mrs. Gurney, of Harvard College, Cambridge, U.S., came.

Aug. 26. To Cromer.

Sept. 30. Dr. Cookson, the Master of Peterhouse, died, after a very short illness.

Oct. 4. Cambridge.

1877. *Feb.* 13. We had a meeting of about sixty Undergraduates to meet Canon Cory.

July 21. Went to Somerleaze, near Wells, to spend a few days with the Freemans.

July 24. Lord Coleridge, J.C., Mr. Pinney, the high sheriff, and several other people dined here.

Aug. 1. To Dovercourt.

Aug. 6. To Carnarvon. I was appointed temporary President of the Cambrian Archaeological Association.

Aug. 8. To the "Rivals." Went to the top of Tre'r Ceiri. We visited Clynnog Fawr on the return.

Aug. 9. We were nearly all day in the castle, following the guidance of Sir Llewellyn Turner, the deputy constable, who shewed us everything in detail, in a most interesting and instructive manner.

Aug. 10. The morning was very wet, so the excursion fell through, and we broke up in small parties. I spent most of the afternoon in the castle examining mouldings.

Aug. 12. *Sunday.* Service too high for me. . . .

Aug. 13. Llanberis.

Aug. 18. I carefully examined the prominent hill at the tenth milestone at Llanberis, on which Professor J. Rhys told me that he was led to suspect the existence of an old fort. I found no trace of anything of the kind. It is a very strong position, being deeply divided from the adjoining mountain, and very steep all round. From its position in the valley seems to have been occupied at some time, but to have had no works thrown up or built upon it.

Aug 23. To Dovercourt.

Aug 30. Meeting in the evening to hear a lecture on the China Mission, by Mr. J. E. Cardwell. I was in the chair.

Sept. 4. Examined the sea-shore and salt marshes for between two and three miles along the sea-banks. The vegetation is rather rich, although there are no such beds of the plants as at Hunstanton.

Sept. 5. Jani Alli came to stay with us.

Sept. 8. Jani Alli and I went to Ipswich, and saw the museum and the house of James I.'s time. Had lunch with Admiral Johnson.

Sept. 18. Went to the flats of the Stour by crossing at the sluice gate below Upper Dovercourt, and found a number of interesting plants, such as *Spartina*, *Statice alterniflora*, and *S. Limonium*, *Juncus maritimus*.

Sept. 19. I added several plants to my list, in the lane and the marshes.

Oct. 23. We returned home.

Nov. 20. Sir William Hill came to us for a meeting in aid of the Zenana Misssion in the Guildhall, at which I presided.

Nov. 22. The Rev. H. E. Brooke came to us, and helped at a meeting of Undergraduates in the evening.

1878. *Jan.* 20. Dined with the Vice-Chancellor in Clare College Hall, to meet H.R.H. the Prince of Wales.

Jan. 21. Attended the unveiling of the statue of the Prince Consort in the Fitzwilliam Museum by the Prince of Wales; also a levée held by him in that building.

April 1. Heavy snow last night, and the temperature as low as 21°.

April 4. The assistant curatorship of the Herbarium passed the Senate by fifty to six.

May 1. Stanley Howard came back to Cambridge from Australia to keep this term and take his degree.

May 7. A. Lukyn Williams, of Jesus, came with his bride to spend a few days with us before his departure to take the headship of Moore Theological College, in New South Wales.

June 19. Mr. Jackson and Newbould came to botanize. We were caught in a thunderstorm on the Gogs.

July 16, 17. Assisted S. S. Lewis in conducting the Leicestershire Architectural and Archaeological Society to the special points in Cambridge.

Aug. 7. Went to Cockfield for the Suffolk Archaeological Society's Meeting.

Aug. 8. To the meeting at Clare, visiting Cavendish Church by the way. Remarked the communion table standing free from the wall, with a sort of reredos attached to it. At Clare visited the Roman station, the castle, and the priory.

Aug. 14. To Dovercourt.

Aug. 17. Started for the Cambrian Archaeological Meeting at Lampeter. Reached Shrewsbury.

Aug. 18. *Sunday.* Went to St. Alkmund's Church in the morning and the evening, and heard Mr. Wightman at the latter.

Aug. 20—22. Excursions.

Aug. 23. I went alone to hunt for a camp on the hills without success.

Aug. 24. Went to Abergwili to spend Sunday with the Bishop.

Aug. 25. *Sunday.* Went in the morning to Christ Church, Carmarthen, to hear Dr. Kerfoot, Bishop of Pittsburgh, who is stopping at the palace. He also preached in the afternoon at Abergwili Church.

Aug. 31. Llanberis.

Sept. 1. *Sunday.* A good sermon from the new rector. Prof. and Mrs. Cowell are here. Prof. Rhys here.

Sept. 6. Cowell and I examined Cwm-dwythwch for antiquities, and found six "giants' graves" on the south-east side, three or perhaps five on the north-west side, all 24 feet by 15; a circular house close under Moel Eilio, measuring 10 feet by 9, excavated in the inside, where the walls are still 4 feet high; also a long enclosure of doubtful use, 60 feet by 15.

Sept. 10. Cowell, Rhys, Roberts (Caius) and I went to Penmaenmawr, ascending from Llanfairfechan, also visiting the circles, to the east of it. Descended to the village of Penmaenmawr, and returned by train.

Sept. 13. Cowell, Rhys, Roberts and I went by train to Carnarvon, then by road to Llanaelhaiarn, and went up the "Rivals" to Tre'r Ceiri. We had a most beautiful day, and examined the place thoroughly. Also saw the inscribed stone in the old school house.

Sept. 20. To Dovercourt.

Oct. 5. We returned home.

Oct. 26. The Bishop was here at the placing of the memorial stone of the nave of St. Barnabas' Church.

Dec. 9. A very hard frost commenced.

Dec. 25. Continuance of the hard frost. Thermometer 15°.

Dec. 26. A thaw to-day.

Dec. 28. Frost commenced again, and continued with much severity until Jan. 13, and commenced again in two days, continuing until Feb. 1.

1879. *Feb.* 23. *Sunday.* Frost commenced again.

Feb. 25. I presided at a meeting in the Guildhall, in aid of the building fund of the "Sailors' Rest" at Devonport. Miss Weston was some days at Cambridge.

March 8. The Rev. H. C. Cory and the Rev. D. A. Maxwell came to us for the meeting of the Irish Church Missions.

March 10. We had a good meeting in the evening; but sad accounts of the state of Connemara. School houses wrecked, and masters and the Rev. Mr. and Miss Conerney assaulted by mobs led by a priest.

March 11. We had a nice party of Undergraduates to meet Cory in the evening.

March 20. Major Black came to us, to lecture on his "Views of Indian Female Life."

March 26. A heavy snow-storm, after a succession of very cold days. Almost continuous winter up to this time.

April 5. We went to Bognor. . . . We took a poor girl to London, who was going to an Institution at Brighton.

April 8. I went to Felpham to look at the church which has curious dormer windows to the north aisle. It seems to have been a late Norman building, with nave and very low side aisles; altered considerably in the Early English period, and much more in the Perpendicular. There are what seem to be curious supports for a rood-loft.

April 13. Snow fell on the Downs in the night, and lay there all the day.

April 24. Commenced lectures.

May 29. Concluded my lectures, after the latest season that I can remember. I had much difficulty in obtaining specimens for demonstration, and got very few for the schedules.

June 14. We went to "The Old Hall," near Settle. Here we are about 750 feet above Cambridge.

June 17. Found *Myrrhis odorata* by the road side: *Campanula latifolia* appears to be abundant, although of course not in flower . . . in Borris Wood found *Paris quadrifolia.*

June 18. We drove by way of Little Stainforth to Swarth Moor, then crossed the river at Helwith Bridge, and returned by Great Stainforth, Langcliffe, and Settle. Between Sherwood House and Stainforth we saw abundance of *Geranium sylvaticum* in the hayfields on both sides of the road. It was a most interesting drive; the mountains clear and fine.

June 20. We took a carriage to visit Clapham. Went to the Ingleborough Cave, going by a very pretty path through the grounds of the Hall, above the lake. We passed the cave without notice, and went on through the ravine nearly as far as Hurnel Moss. On returning we found the cave, which is interesting from the stalactites.

June 30. We drove to Ingleton. Then up the dale to Weathercote and Chapel-le-Dale.

July 4. Home.

July 15. Newbould came to us.

July 16. Newbould and I had a long walk to Cherry Hinton and the Gogs.

July 31. The cold season continued until the beginning of this week, when warm days commenced. There has been no real spring this year, but continual wet and cold weather.

Aug. 3. *Sunday.* There was an exceedingly severe thunderstorm in the preceding night, from 1—4 o'clock. Our kitchen was flooded, also very many houses in the town. The way to Newnham was stopped. A torrent came down the Madingley Road, and flooded St. John's walks almost up to the front of the New Court. 3 and 1-10th inches of rain fell, and much hail, but very little glass was broken. There had been no such storm since Aug. 9, 1843; but that was more destructive of glass. This storm flooded the lower part of the Botanic Garden.

Aug. 19. To Rowsley ("Peacock" Inn).

Aug. 20. To Haddon Hall in the morning, where we saw, what does not seem to be noticed in the guide books, that both the slabs in the chapel have the crosses of consecration upon them. To Chatsworth, saw the interior well.

Aug. 21. We drove to Youlgrave, and saw the church. It has a stoup, projecting from the side of an old, perhaps Norman, font. Then by Cold-well-end to Arberlow, which is a fine circle of about thirty stones within a high bank and ditch. All the stones have fallen, and lie in their places. There are some, perhaps the remains of a cromlech, in the centre.

Aug. 22. We drove in the morning to Matlock Bath, visiting Darley Church by the way, to see the ancient tombstones in the porch, and very large yew tree in the churchyard. We greatly admired the cliffs and woods in the valley. We then drove to Dethick, to see the remains of the old house of the Babingtons, of which there is very little left. We went by Cromford, and returned by Dethick Moor and Tansley to Matlock. We then drove to Ashover, to see the Babington tomb in the church. It is in very good condition, and well preserved.

Aug. 23. We went to Buxton, and saw a little of the place. Then returned to Bakewell, and visited the church with its fine monuments, and early sculptured stones. We greatly admired the upper valley.

Aug. 25. To Welshpool, to commence Cambrian Archaeological Meeting.

Aug. 30. I went to Montgomery, and had lunch with Lord Powis. In the evening went with the Rev. R. Trevor Owen to his vicarage at Llangedwyn, near Oswestry. Just after leaving the station at Llansaintffraid, we met with a serious accident, by the horse taking fright, and breaking the shafts, and throwing us all out. No one was much hurt, providentially. Our companions were Mr. R. Hartland and Mr. G. Robinson.

Aug. 31. *Sunday.* At Llangedwyn Church. Quiet dinner at Lady Wynn's afterwards.

Sept. 1. We went to see two standing stones, one about 14 feet high; the church at Llan Rhaidr-yn-Mochnant, where we found a sculptured stone in the wall; then on to Llangynnog, where we ascended Craig Rhiwarth, to see some hut circles and walls. (*See* "Archaeologia Cambrensis," 1880, p. 25.)

Sept. 2. To Llan Rhaidr again, and to the fine fall of Pistil Rhaidr, and the circle and avenue of stones on the moor, above the fall, called Rhos-y-Beddhu.

Sept. 4. To the "Old Hall," Settle. Stackhouse is about 550 feet above the sea, and the hill about 975 feet.

Sept. 10. We went by train to Hawes Junction, and then down Wensleydale to Leyburn. Then drove to Jervaulx Abbey. This is a small place, but cleaned out, and kept in excellent order, with much standing. Then to Middleham Castle: a magnificent square tower of great size, surrounded by a high wall with buildings on its inner side; leaving a comparatively narrow space between them and the great tower. The tower is divided into two spaces by a very thick wall, and the rooms in its upper part were very fine. It is well kept now.

Sept. 11. Before breakfast I went to the "Shawl," a walk along the edge of a high wooded cliff for more than a mile, commanding a very beautiful view. We drove to Wensley to see the church. In addition to the brass to the memory of a former rector, there is a slab with two figures of members of the Scrope family, in slight relief, well worthy of notice. Then to Bolton Castle, built in the reign of Richard II., more a defensible residence than a true castle, although very strong. . . . Visited Hardraw Force, which was a fall of 100 feet quite clear of the rock. By train to Settle, then Stackhouse.

Sept. 18. I went to the top of High Scar; also examined a large "tumulus" by the Feizor track. It seems rather to have been an oblong rather square-ended space walled, with perhaps a cromlech in the middle. But this is doubtful, as all is very much ruined, and pulled about.

Sept. 29. To Cambridge.

Oct. 17. Attended the laying of the corner-stone of Ridley Hall by Bishop Perry, and a luncheon afterwards.

Nov. 10. Professor Clerk Maxwell's funeral, in part at Trinity College.

Nov. 23. On my birthday I am thankful to record how merciful God has been to me in preserving me in health and strength to this day. Assist me, O Lord, to do my duty better in time to come.

Nov. 29. Hard frost.

Dec. 2. Temperature this morning 15° Fahr. Continued hard frost. Heavy fall of snow in the evening.

Dec. 5. Therm. 20°.

Dec. 7. Therm. 2° on the morning of this day. It was only 4° at 10 a.m. outside our house. Below zero in several spots near the town.

Dec. 13. A slow thaw commenced. Bar. as high as 30·7.

1880. *April* 12. Commenced lectures. The most backward season that I remember.

June 12. To Rowsley.

June 15. We took a carriage for the day, and went through Bakewell and Ashford to Monsal Dale, and through it and Millar's Dale: both exceedingly beautiful, as is also Cressbrooke Dale, branching from them. Returned by way of Taddington . . . to Bakewell.

June 18. Drove through Chatsworth Park, Baslow, Calver, to Stoney Middleton, through the fine valley of cliffs to Eyam, where we saw the memorials of the Plague in 1666, including the preaching place in the rocks, and the graves in the fields. . . A magnificent country.

June 21. I walked to Stanton Moor, going by way of Pilhough, where I saw the Nine Ladies' Circle, the King Stone, and the Gorse Stone.

June 22. To London to attend the Mildmay Conference.

June 23—25. The Conference. Very interesting.

Aug. 10. The British Medical Association Meeting here commenced.

Aug. 12. Breakfasted by invitation with a large party of the doctors to discuss the Temperance question. The invitation came from Mr. Samuel Bowly, President of the National Temperance League.

Aug. 13. Conclusion of the Meeting. A large garden party in King's Gardens, given by Dr. and Mrs. Humphry.

Aug. 23. To Pembroke, for the Meeting of the Cambrian Archaeological Association.

Aug. 24. The town and Tenby.

Aug. 25. Castlemartin and the south coast, and Stackpole Court, and British settlement on the Warren there.

Aug. 26. To Carew and Manorbier.

Aug. 28. Llandudno.

Aug. 31. Went by rail to Holyhead, being joined at Bangor by Mr. J. E. Griffith and A. G. More. We then took a car to near the South Stack. We descended nearly to the shore at Yr-hen-borth, and found *Cineraria campestris—maritima* in tolerable plenty on the turf on the south side—amongst the rocks on the descent. We then went on to near the descent to the lighthouse, and there on the right hand found *Helianthemum Breweri* and *Scilla verna*. These and the *Cineraria* were of course out of flower. Back by rail to Gaerwen Junction and Llanerchymedd, from whence we drove to Penrhos-Lligwy, and found in the brook, both above and below the bridge over the river Lligwy-Rhos, *Potamogeton lanceolatus* (*Sm.*) in plenty, but only just in flower. Then returned to Bangor and Llandudno after a most successful expedition.

Sept. 1. A. G. More and his sister came to see us; also Mr. Griffith. Afterwards More, Griffith, and I went on to the Head, and saw *Hypochaeris maculata, Chrysocoma, Cotoneaster*, etc. The latter much further from the town than where I formerly saw it.

Sept. 2. To Colwyn Bay Hotel.

Sept. 3. We went to Abergele; saw the church and tomb in the yard, of the victims of the well-known burning of a railway train. Walked to the upper lodge of Castell Gwrych. I then went to the old Castell on the top of the wooded hill, finding my way there with some difficulty, and my return with more. It is encumbered with trees and vegetation, but seems of much interest, having apparently dry-stone walls, an approach on the north-west by flights of steps, at least fifty in number, and a curious wall across a ravine. There seems to have been also a fortified entrance on the west side which I had not time carefully to examine.

Sept. 7. I went to Capel St. Trillo by the shore; a small ruin covering a spring.

Sept. 9. To Llandulas. Walked to Gorddyn Mawr, ascending it from the farm, then over the hill to Abergele.

Sept. 10. To Bryn Eurion. Walked to the top.

Sept. 13. To Church Stretton.

Sept. 17. We drove to Stokesay Castle, and examined it thoroughly. The tower appears to be Early English, and the hall a late form of same style, both very beautiful. The additions, of which much is wood, are probably Elizabethan. The upper rooms at the end of the hall are singularly projected over the early walls, so as to make larger rooms than could have been there originally. The gate-house is a beautiful example of black and white work.

Sept. 20. We went to Ludlow, and went all over the house where my parents lived, and I was born, now a school, kept by Mrs. Crawford Watson, and called Castle Lodge. We also went to the castle and church.

Sept. 21. I called upon Mr. Witting, the surgeon, about the Cambrian Archaeological Meeting of next year, and met there the Rev. C. Noel-Hill, the rector. They both agreed to do all that they could to promote its objects. I then went to Brockhurst Castle, where there are the foundations alone remaining, as shewn in the Ordnance map.

Sept. 23. We went by train to Craven Arms and Much Wenlock, where we were kindly admitted to see the house formed out of the domestic building of the abbey (said to be the prior's lodgings). They have been very little altered, and even the old doors and shutters remain in use. There is a beautiful corridor along the front giving access to the rooms. The remains of the church and chapter-house are very fine. We also saw the fine carved chairs, etc., in the town hall. We then went by train to Buildwas, and saw the remains of the abbey.

Sept. 24. We went through Cundsytch Valley to All Stretton, then crossed the railway and returned by the Watling Street, which we found in very bad repair. The valley above All Stretton is very beautiful.

Sept. 27. Left Church Stretton.

Sept. 28. To Tutbury, to see the fine Norman church and castle. Then to Lichfield, to visit Mrs. Babington, sen.

Sept. 30. To Yoxall Lodge, to see the residence of my uncle Gisborne. Found it very much altered from what it was in his time; the house for the better, the grounds for the worse.

Oct. 2. Home. October was a very remarkable month in the oscillations of the barometer.

1881. *Jan.* 10. The Rev. H. E. Brooke came. We gave a tea to the persons employed by the post office as postmen, etc., thirty-nine in number, at the Alexandra Hall. Mr. Brooke addressed them; they presented an inkstand to A.M.B.

Jan. 18, 19. A very heavy snow-storm, and gale of wind, and low temperature.

Jan. 27. Thaw now came after an extreme continuous cold, almost unprecedented.

Jan. 28. Opening of Ridley Hall.

Feb. 7. Dr. and Mrs. Asa Gray came to stay with us. He wanted to examine the Herbarium.

Feb. 8. Had a small dinner party to meet them.

Feb. 9. The Rev. W. W. Newbould came.

Feb. 11. Dr. and Mrs. Gray departed.

Feb. 14. Newbould left.

Feb. 28. A heavy fall of snow, and very hard frost at night.

March 8. A. G. More came, and left on the 11th.

March 31. Funeral of W. H. Bateson, Master of St. John's College.

April 12. To Ventnor, to visit Cornelius Nicholson, Esq., at Ashleigh.

April 13. He took us to see the Roman villa at Brading, recently discovered, of which he has written an account.

April 20. We left Ventnor and visited Carisbrook Castle, and the Roman villa there.

April 21. To Winchester. Visited St. Cross and the Cathedral.

April 22. Home.

June 1. Was present at the laying of the first stone of Selwyn College.

July 25. Finished printing eighth edition of my "Manual" at this time.

July 30. We left for Ludlow, to stay with R. K. Penson, Esq., at Dinham House. Cambrian Archaeological Meeting at Church Stretton.

Aug. 1. I went from Ludlow, where we had been since Saturday, July 30th, to Church Stretton, to attend as President of the Meeting of the Cambrian Archaeological Association. Lodgings with Barnwell and Gore.

Aug. 2. All day at Shrewsbury.

Aug. 3. The same at Stokesay Castle and Ludlow. A party of us remained behind and dined with the Pensons, returning to Church Stretton in the evening.

Aug. 4. To Much Wenlock and Buildwas Abbeys.

Aug. 5. A visit to Haughmond Abbey and Uriconium, and concluded the meeting, which was excellent.

Aug. 6. I went to Ludlow, and we went on to Wellington to visit Dr. and Mrs. Cranage at the Old Hall.

Aug. 9. Drove to Coalbrookdale, Iron Bridge, and Bentall Hall, called on both the Messrs. Maw, and also their father; much interested in Mr. G. Maw's drawings for his work on *Crocus*; and the plants in his garden.

Aug. 10. A drive by the foot of the Wrekin, and returned by Wrockwardine, where the church was under repair. It is interesting, from the various styles of architecture in it: very earliest Norman, to very late Perpendicular.

Aug. 12. Drove to Lilleshall Abbey, which is chiefly Norman and Early English.

Aug. 13. We went to the top of the Wrekin; there is a fine fortification there formed by two trenches and ditches at a long distance from each other on one side, and one similar on the other; each with a strongly defended gateway. They entered across the hill.

Aug. 15. To Ilkley.

Aug. 16. We went to see the Keltic stones in the churchyard.

Aug. 20. We walked in the morning to Hollin Hall (a former residence of the Heber family), which is now a small farm house.

Aug. 27. To Bolton Abbey. We went past the Abbey at first as far as the Strid; then walked along the path by the river to Barden Tower, which is not of much interest, although beautifully situated. We then walked back by the same way, nearly; and on to the Abbey. All this walk by the river was most beautiful, increased by the full state of the river, from the rain of the last days. The Abbey Church is small, and not of much interest. We then had lunch at the "Devonshire Arms" Hotel, and drove home by the north side of the river, having had a most pleasant day.

Sept. 5. I went by the Birley Wood road, and turned up to the moor, searched for and found Langshaw Delves (an ancient British village), where two or three stone beehive houses may be traced. The whole is a long space enclosed by a bank, which may be a wall, and covered with excavations for habitations. On my return, I visited a spot called "Ancient Enclosures" on the map. There is an old track leading to it, but little to be seen at it.

Sept. 8. To Barnard Castle.

Sept. 9. To Middleton-in-Teesdale, to see the High Force fall of the Tees. The fall was not very full, but fine. The rock surrounding it, and the ravine, looked perhaps the finer from being wet.

Sept. 12. To the Castle in the morning; drove to Egglestone Abbey, on to the Dairy Bridge at the junction of the Greta with the Tees; then to Wycliffe, where the rector (the Rev. J. Erskine) shewed us his church, and portrait of Wycliffe, and most kindly gave us tea, although we were quite strangers to him. We returned by the north side of the Tees.

Sept. 13. To York. We attended the service in the Cathedral, and then had tea with Canon Fleming, where we met Archdeacon Hey.

Sept. 14. To Helmsley, and drove to Rievaulx Abbey.

Sept. 15. We spent the afternoon with the Backhouses, inspecting his garden. He shewed me roots of *Cineraria spathulifolia* from the northern exposures of the high ground south of Mickle Fell, Teesdale. He found it there several years since, and did not know what to make of it.

Sept. 16. To Lichfield to visit Mrs. Babington, senr.

Sept. 19. We saw Mr. Spode's interesting garden (much after the plan of that of Backhouse).

1882. *Jan.* 18. For some days the barometer has been exceedingly high, with thick fogs; this day mine registered 30·90.

Feb. 21. The barometer has now suddenly fallen to 29·2, after a long time of great pressure.

March 9. Dr. Horden, Bishop of Moosonee, came, and left on 11th.

April 1. To Bournemouth.

April 5. To Christchurch, to see the fine church.

April 6. To Boscombe Chine; found there *Polygala serpillifolia* in abundance, and great beauty.

April 11. To Wimborne Minster to see the church. It was originally Norman, but much altered, so as to look almost Perpendicular. The nave was lengthened and heightened in Early English time, and again heightened in Perpendicular time. There is a curious library, totally neglected, and the books going to ruin very fast.

April 18. Mr. C. Stuart Thorpe came for one night, with dissolving views for the Spanish and Portuguese Mission.

April 19. The Rev. J. H. Pattison and the Rev. J. F. Kitto came for Clerical and Lay Association.

April 26. Went to London to be present at the funeral of Mr. Darwin in Westminster Abbey.

May 13. We went to the Fleam Dyke, and found *Anemone Pulsatilla* and *Senecio campestris* in flower in abundance.

May 25. Division in Senate about opening the Botanic Garden on Sunday. Openers gained by 88 to 76 votes.

May 27. We went by train to Linton, then walked by Little Linton to the Hildersham Furze Hill and Pampisford Station.

May 31. Professor and Mrs. Cowell went with us to Newmarket, Chippenham, and the Devil's Ditch. We found most of the peculiar plants which were in flower at the time.

June 7. We went with Professor and Mrs. Cowell to Mr. Pollard's, at High Down, near Hitchin. We found *Botrychium Lunaria* for the first time in Herts.

June 12. I went to Willingham with Worthington Smith to see Mr. Pegler's Roman antiquities.

July 31. To Llanrwst for the Cambrian Archaeological Meeting. Resigned the Presidency in the evening. The excursions continued

day after day. The President received us at his beautiful place near Llangerniew one day, where he has a most interesting garden, full of fine and rare trees; and Mr. Pockin, of Bodnant Hall, on another day. Both most hospitable. I did not go to Pencaer Helen on Friday, as I was tired, and the climb is very severe.

Aug. 6. *Sunday.* Bangor. Went to the Cathedral. In the afternoon to Llandegai, where there was a quiet service.

Aug. 8. Returned home.

Aug. 17. We left home, and arrived at Pickering.

Aug. 21. We drove to Lastingham, examining by the way the church; Middleton, where we saw some fine Norman and Early English remains, also a very interesting west door, built up, which may probably be Anglo-Saxon. There is a small equal-armed cross set in the wall above the west doorway. At Lastingham the Vicar shewed us the very interesting Norman church, and its peculiarly interesting crypt, with its vault supported by dwarf Norman pillars. In the crypt many very early remains found in and about the church are now kept. We returned to Sinnington Station by the way of Appleton-le-Moor, where a beautiful new church has lately been built. The church at Sinnington has an early crucifix, and a plain cross built into its southern wall. The country beautiful.

Aug. 23. We paid a visit to the very fine collection of British antiquities, vases, and flint arrow-heads, and other things preserved at his house by T. M. Kendall, Esq., who very kindly explained them. Afterwards we went to the castle, which consists of a large square enclosure with corner towers and gate-house, and a central keep upon a high mound, surrounded by a deep moat, and connected on two sides with the outer walls.

Aug. 24. We drove to Saltersgate Inn over much high moorland, and gave a short visit to the Hole of Horcum. The day was thick, with some rain, but the moors looked beautiful.

Aug. 25. To Kirkdale, to see the church, and its very ancient stones and inscription.

Aug. 26. Left Pickering, having been very much pleased with the "Black Swan," and its landlord, Mr. Hudson. To Fylingthorpe, Robin Hood's Bay.

Aug. 28. We went to the shore, passing through the curious little place called here "The Bay," built in a singular manner upon a rock projecting almost into the sea, the main street being too steep for wheels.

Aug. 30. We walked to the top of Fylingdales Moor. Called on the Rev. R. J. and Mrs. Cooper at the vicarage.

Sept. 1. To tea and supper at Mr. Cooper's.

Sept. 6. This was a very fine day, and we took a carriage and went by Fyling Hall, Swallow Head Barn, and St. Ives to Kirk Moor, Fylingdales Moor, and, dismissing the carriage, after a long rest on a tumulus (Latter Gate Hills), returned by Park Hill and Park Gate. I could not find the "circle" (Thorn Kep Howes), but did find the three fine "standing stones" marked on the map. The vegetation of the moor is far from being rich. The road by St. Ives is exceedingly steep and very bad.

Sept. 8. Walked by Park Gate to the moor, then along the nearer side of it to the descent to Ramsdale. Then through the beautiful wood to Ramsdale Mill, and by the path by the beck to Park Hill and home. The valley by Ramsdale Beck through the wood is the most beautiful place we have seen here.

Sept. 13. We went to tea at Mr. Cooper's.

Sept. 16. We drove by Whitby to Sandsend, and then walked through the Mulgrave Woods to the old castle and hermitage. There is not much to see at either of them, but the woods are very beautiful, covering the sides of two ravines, those of the Mickley and Birk Head becks, and the hill between them, upon which the old castle is placed. We entered the woods at East Row, and came out at a lodge between Sandsend and Lythe, where there is a beautiful view of Whitby.

Sept. 18. We went to the Moor by Park Gate, and examined the northern part, descending by Row. (N.B.—This part of the moor is 600 to 700 feet of elevation.)

Sept. 21. I gave a short address upon the rudiments of Botany to the Coopers.

Sept. 26. Mrs. Cooper took us to see Howdale Beck. We went by Fyling Hall, and along a terraced path through the wood far above the water, then descended, and crossed the water, and ascended to a little beyond some farm premises on the other side, returning the same way. It is the most beautiful place which we have seen here. The hills are more mountainous in their character, and very precipitous in many parts, and one side of the valley beautifully wooded. We saw here an abundance of *Luzula sylvatica* and *Lastrea dilatata*.

Sept. 29. To York.

Sept. 30. To Richmond for the day. Saw the castle and the church. Also walked to Easby Abbey.

Oct. 20. Was this day elected a Fellow of St. John's College.

Nov. 1. Admitted a Fellow of St. John's.

Nov. 5. Messrs. Moody and Sankey's Meetings commenced.

Nov. 12. *Sunday.* The last day of Messrs. Moody and Sankey's Mission here, which has been very successful. Unfortunately, open windows in the Corn Exchange gave me a bad cold on the Wednesday evening, and deprived me of the benefit of the later days of the mission.

Nov. 23—28. A University Election.

Nov. 30. Miss Marsh came to give an address in our drawing-room (to University-men).

1883. *Jan.* 29. The Rev. E. H. Hopkins, of Richmond, came to stay with us for the Meetings "for the Deepening of Spiritual Life."

Feb. 3. Mr. Hopkins left, the four days' valuable meetings having concluded on Friday.

March 7—14. Second Edition of "Ancient Cambridgeshire" published this week.

April 30—*May* 2. Lieut.-General Field was with us for the Evangelical Alliance.

May 22—26. Miss Marsh came.

June 13. General J. T. Walker received his Honorary Degree.

June 16. To Rowsley.

June 25. We drove to Chesterfield by way of Baslow, and then on to Hardwick, to see the fine old hall, full of historic pictures. The magnificent gallery is very interesting. At Chesterfield we stopped to see the beautiful church which has the twisted spire.

June 26. To Harmondsworth Vicarage, near Slough.

June 27. We went to Windsor and saw all that we could well see. Attended part of the service in St. George's Chapel.

June 28. We drove to Stoke Poges to see the very curious church, and the monument to the poet Gray.

June 29. Spent some time in the church (Harmondsworth) which seems to have been stopped in the middle of an alteration from Norman to Perpendicular (late), and left so. It has a singular effect, but is very interesting.

July 10. Cowell and I went to Thetford, to botanize, and met the Cambridge Antiquarian Society Members, for visiting the ruins.

Aug. 9. This day my dear friend, T. H. Corry, was drowned in Loch Gill.

Aug. 11. Left London at 10.20 a.m., and arrived at Fishguard at nearly 10 p.m. Cambrian Archaeological Association.

Aug. 13. We walked to Lower Fishguard, and called on Mr. Worthington, at Alyn-amal, and saw his beautiful garden (it is where Mr. Fenton used to live). In the afternoon we walked to Goodwick. . . . The Meeting commenced in the evening.

Aug. 14. A very wet day, but, nevertheless, had a long drive. Saw a curious small Calvary cross and some interesting inscribed stones, and very beautiful country.

Aug. 15. Very wet in the early part of the day; unfortunately, through the very beautiful Gwaen valley. Afterwards very fine, and through a most interesting country. We especially visited the grand Pentre Evan cromlech.

Aug. 16. A fine day, with some sea-haze. The most interesting place was Garn Fawr, a fine fort of the Penmaenmawr type. It has three walls, and lots of hut-circles. The entrance is very well defined.

Aug. 17. To St. Davids, to visit the Dean. Saw fine cromlech by the way, and beautiful sea-coast near Longhouse; by Aber Castle, where Mr. Marychurch kindly entertained us. The whole party visited the Cathedral, under the guidance of the Dean.

Aug. 18. Walked to Whitsand Bay, and also revisited the little fort formerly described by me.

Aug. 19. *Sunday.* St. Davids. Very nice services in the Cathedral, and early communion. In the evening we took a walk to the beautiful coast between the Nuns' Chapel and Porth-clais.

Aug. 20. The Dean drove us to the coast opposite to Ramsey Island, and to Caerfai.

Aug. 21. We left St. Davids, and went to the Hotel at Neyland, spending the evening at Burton with Mr. and Mrs. Tombs. The church there is a most interesting example of a fortified one. . . . We both went and returned by water.

Aug. 23. To Gloucester.

Aug. 24. Visited the Cathedral and other places in the morning.

Aug. 25. To Launceston.

Aug. 28. Drove to Tintagel, over Laneast Down, seeing the birthplace of Professor Adams in the valley below. A beautiful drive.

Aug. 29. To Boscastle, to see the curious little harbour.

Aug. 30. To Trebarwith Strand.

Aug. 31. To Truro. Much pleased with the museum of the Royal Institution.

Sept. 1. We left Truro in heavy rain, which continued all day. The rail took us as far as Penryn, thence drove to our cottage at Cadgwith Cove, on the hill side just over the sea. This has been one of the severest storms for some years. Barometer 28·68.

Sept. 2. *Sunday.* An exceedingly stormy and wet day, but with a rising barometer.

Sept. 3. We recorded 100 plants.

Sept. 4. This morning, Mr. Richards (Trin. Coll., Oxford) shewed me *Acanthus mollis*, by a wall near Ruan Minor, and told me of two other very dubious places where it grows.

Sept. 5. To Kynance Cove, and had tea there. The tide was up, and the place most beautiful.

Sept. 7. Mr. Cunnack came from Helston, and the Richards' and he took us to Caerleon Cove to see the *Allium Babingtonii* growing abundantly there, and also the Serpentine works.

Sept. 8. We walked along the cliffs towards Landewednack in the morning. In the afternoon by the cliffs to Kennack Cove, where there are fine sands, to join the Richards' at tea on the beach. Also we were taken to the further division of the Cove to see *Cyperus longus* in abundance, and on the way over the intervening ridge, saw plenty of *Ruscus aculeatus*.

Sept. 9. *Sunday.* Morning at Ruan Minor, evening at Grade. Sermons at each church for Missions to Seamen.

Sept. 10. Went to Ruan Minor, and St. Ruan. Mr. Richards shewed us *Verbascum virgatum* in a field near his lodgings, near St. Ruan.

Sept. 11. We drove to Mullion, and the Cove. The church is full of fine old wood carved seats. . . There is a small crucifix over the west window in the tower. The cove is very beautiful. *Erica vagans* is abundant by the wayside throughout most part of the distance.

Sept. 12. We called upon the rector, the Rev. Charles H. G. Vivian, at his beautiful parsonage, St. Ruan. We then visited the well of St. Ruan, with its curious stone covering.

Sept. 13. We drove over Goonhilly Heath (where the *Erica vagans* was still not over) to Helford, on the Helford river. We there had tea at the house of a nice old lady named Cregoe, who afterwards walked with us up the beautiful valley to the south of the place. It was a most beautiful day.

Sept. 15. Lunched with the rector, and met Canon Du Boulay.

Sept. 18. We walked by the coast to Poltesco, over the fields to Carger and Kennack Cove; returned by the road.

Sept. 20. We drove to Gunwalloe, saw the church close to the sea, and then walked along the edge of the cliff by Poljew and Polurrian Cove to Mullion. There was plenty of *Scilla autumnalis* on the banks near the latter place. Had tea at the nice old inn, and drove home.

Sept. 21. Drove with the Bolton Kings to St. Keverne and Coverack Cove. On the way we passed the "Three Brothers of Grugith," a half-ruined cromlech with apparently a long avenue leading to it. It was on Crousa Down.

Sept. 23. *Sunday.* Morning, Ruan Minor; evening, Grade. Came back through the latter through a tremendous storm of rain, and an exceedingly dark night. The walk was very difficult, and without help we could hardly have found it.

Sept. 27. We went to Landewednack to see the lighthouses, where the electric light is used.

Sept. 28. A very wet day. But Mr. Cunnack came from Helston, and spent the day with us.

Oct. 1. To Plymouth. Spent most part of the afternoon and evening at Mrs. Nelson's, meeting there many of the Howard family. We also visited the Sailors' Rest (Miss Agnes Weston) with much interest.

Oct. 2. Returned home.

Oct. 9. We went to Lincoln to visit Canon and Mrs. Venables.

Oct. 24. Excursion to Ely with the Cambridge Antiquarian Society.

Nov. 12. The first frost of the season. Thermometer 25°.

Dec. 6. First fall of snow.

Dec. 7. Barometer 30·49.

Dec. 25. Barometer 30·52.

During the last three weeks of the year I did not leave the house, from pain in the hips and swelling of the ankles.

1884. *Feb.* 6. I went out for the first time since Dec. 9, having had a swelled foot, and pain with weakness in the loins.

March 11. On this day I began to walk about again moderately, having had a return of weakness in the feet.

April 1. We left home, and reached Dawlish. I was not tired by the journey.

April 2. We took an hour's walk in the afternoon. My foot was not at all the worse for it.

April 8. Beach in the morning. In the afternoon had a donkey chair up the vale, then over the hill near Oakhill to Lower Holcombe, and back by Teignmouth Road. A very beautiful excursion, and very fine weather.

April 9. Beach in the morning. In the afternoon had a drive up the valley by Dawlish Water, then across the brook, and nearly as far as Hampool, back by the same side.

April 10. We went by train to Teignmouth, and walked as far as the long bridge, to see the beautiful view. I stood the walk very well.

April 12. We took the donkey-chair to the top of the hill, then walked by the cliff-road (grass) to the Warren. Near a black shed, about half along it, we found the *Trichonema Columnae* in tolerable quantity. *Trichonema* also grows sparingly near the cottage below Mount Pleasant, at a little to the south. We then walked all the way back by the Langstone, and the sea wall. It was a very beautiful and pleasant excursion; I did not suffer from it, and walked well to the church on Sunday, but rested the remainder of the day.

April 13. *Easter Sunday.* (I had not been at church for 18 Sundays.)

April 14. We went to see the beautiful grounds of Cliff Cottage (Mrs. Newell), hanging over the sea, about a mile south of Dawlish.

April 15. We drove to Mamhead, through a beautiful country. The grounds are very interesting, being very undulating, and with very fine trees.

April 17. To Exeter, and attended the Cathedral service: afterwards had tea with Miss Marriott, who knew Rothley Temple.

April 18. Drove over Little Haldon to Chudleigh, with beautiful views from the top. Visited the rocks, with which we were much interested. Had tea at Palace Farm. Returned over Great Haldon, and by Ashcombe.

April 22. We went with the Miss Cowans up the Aller Valley, as far as High Southwood, then up the ridge of Little Haldon, over Holcombe Down, and by Oakhill home. The views towards Dawlish and Teignmouth were most beautiful.

April 25. Returned home.

May 1. Miss Marsh came, and remained until the 3rd, for the purpose of seeing many Undergraduates.

May 8. Canon Cory came, to address the Undergraduates in our house.

June 28. We went to spend a few days with the Rev. Sparks and Mrs. Sealy, at Gosberton. The church there is a very fine Perpendicular one.

July 1. We walked along the Risgate Eau as far as Cressy Hall, and returned by the lane. *Ranunculus circinatus* was in great beauty on that water. This is the longest walk that I have taken for many months. Thank God.

July 30. We went with the Cambridge Antiquarian Society party to Burwell, etc. I spoke on the Devil's Ditch.

Aug. 19. Left for our tour. To Grange-over-Sands.

Aug. 21. We walked to the top of Hampsfell, to the "Hospice." It was a long ascent, but an easy one, through a nice woody lane, and then up a rather steep open hill-side: it was rather thick, and so the fine view was imperfectly seen. I have not had such a walk since my feet have given way, and I did well. Thanks be to God.

Aug. 22. We drove to Holker Park and Hall, where we saw the rooms and pictures; then to Cartmell, to see the fine Priory Church, Norman in plan and detail, but in many parts altered into Decorated and Perpendicular, also with a few Early English windows. One fine Norman door. Some old printed books in the vestry.

Aug. 25. We had a beautiful drive by the lower road to Lindale, then along the valley and over Holme Bridge to Witherslack; then leaving St. Paul's Church on the left by Fell End to Town End and Longhowe End, and then along the main road back to Lindale. There we saw the uninteresting church, beautifully surrounded by trees, and containing a pulpit given by Dr. and Mrs. Whewell, in memory of his sister.

Aug. 29. We went to the Scar on the coast south of Low Meathop, then to Meathop, and home by the road over the common by Low Meathop. It was a long and interesting walk, and we found many plants. We took lunch on the rocks.

Sept. 1. We drove to Humphrey Head, seeing Wragsholme Tower by the way. It is a square tower of three storeys, of Perpendicular date. We saw nothing in the interior, which is full of hay, but there are several Perpendicular windows in tolerable preservation, seen externally. The carriage took us near to the Head, and left us. We saw the well (of no special interest), and then returned to near Wyke House, and went along the top of the Head, nearly to the end. We walked on our way back by a rather rough track to Kent's Bank Station, and by a good path to Cart Lane, and on by the road. The views from the Head are most beautiful and extensive, although it is of but small height.

Sept. 2. A most beautiful day. We went up a road to the west of Yewbarrow Hill, and were allowed to go through a singular garden made amongst the slabs of limestone upwards, until we reached a wall with a gap leading to the wood covering the north and east sides of the hill. Then through this wood for a long way, coming out to the lower part of the road to Hampsfell. We found *Arenaria verna* in the stony field, and *Epipactis latifolia* in the wood.

Sept. 3. Went by rail to Arnside, and then ascended Arnside Knot, for the very beautiful view from thence. We got over a wall into the wood, which we passed through with much difficulty, from the many fallen trees. On arriving at the top of the Screes we

looked down upon Arnside Tower and Silverdale in the distance. We then came back through another part of the wood, with similar but less formidable difficulty, over the wall again, and back to the station.

Sept. 10. Newbould came for a few days, but before he came we had been again to the *Parnassia* station, by the road to the gas-works. I found one little bit of *Equisetum variegatum* there.

Sept. 11. We drove to Witherslack.

Sept. 12. We walked up to the open part of Hampsfell, where we found plenty of *Lastrea rigida*. We then entered a wood, and descended through it until we found ourselves in the grounds of Nutwood, a beautifully-placed gentleman's house, and passed through them to the old Lindale Wood. The walk down through the wood and the view from Nutwood were most interesting and beautiful.

Sept. 13. We drove to Lakeside, at the foot of Windermere; then went by one of the packet boats to Ambleside landing-place; there we took a car to Clappergate and Skelwith, to Loughrigg Tarn and High Close, and Red Bank to Grasmere, where we saw the tombs of the Wordsworths. We returned by the usual road, except making a deviation by Fox Howe. The day was most beautiful.

Sept. 18. Went to Furness Abbey, where we spent a pleasant and very interesting afternoon.

Sept. 22. We went to Kendal; visited the large Perpendicular church of five aisles.

Sept. 25. In the afternoon we drove to Cartmell Fell church. A most beautiful drive through Newton. On the way we saw to the right Buck Crag, the cottage in which the ancestor of the Law family lived in poverty, as curate and schoolmaster of Staveley. On the way we saw the old Meeting House and graveyard of the Quakers, the former of which is very interesting; quite plain. It is but little used now, as there are few to come to it. The church of St. Anthony is Perpendicular in style, but very plain, almost rude. In it are most curious old pews (A.D. 1698), with a sort of top like the old four-posted beds, with a table in the middle. The pulpit is of the same date. The Communion Table is a small semi-circular table about 5 feet along the front, and the whole place enclosed by the rail is only about 7 feet in front by 6 feet from the wall. There is a mortice remaining, which seems to shew that there once was a rail all across the east end. There is no distinction of nave and chancel. We called on the vicar, and had some milk and cake at a farm (Hodge Hill) below the church. We returned by the lower road, by High Tarn Green.

Sept. 26. Walked to Hampsfell, and gathered *Lastrea rigida* and *Polypodium calcareum* amongst the rocks, near some nut trees.

Sept. 27. We gathered roots of *Parnassia* from the damp ground near the gasworks, to take home for the Botanic Garden.

Sept. 30. Home.

Oct. 22. Attended the Ray Club again for the first time since Dec. 5, 1883.

Nov. 10. Professor Fawcett's funeral. An enormous crowd of people.

1885. *Feb.* 2. A very large meeting in the Guildhall in connexion with the China Inland Mission.*

April 18. We went to Newmarket by train, and found *Anemone Pulsatilla* in flower on the Devil's Ditch.

April 24. First lecture. Very backward season.

April 25. We went by train to Bartlow, and walked back to Linton Station; we visited the tumuli, and also Linton Church.

May 7. We went to Royston, where we visited the heath (but found the *Anemone Pulsatilla* over), the church, museum, and cave.

May 9. Mr. S. A. Blackwood came, and met a number of the College men at St. John's.

May 10. Mr. Blackwood held very successful meetings at C.C.C. and the Guildhall.

May 14. The Rev. J. F. Kitto came to us, to preach before the University.

June 15. We left home for a short visit to Grange-over-Sands.

June 16. W. W. Newbould came to us.

June 18. We went by train to Silverdale Station, and then walked to Hawes Water, at the north-east end of which we found an abundance of *Primula farinosa*, and many other plants. We then walked by Silverdale Moss and Black Dyke by a footpath to Arnside Station, and home by rail.

June 24. . . . We went to see the abundance of beautiful *Orchis latifolia* by the side of the railway.

June 25. Newbould went with us by rail to Ravenglass; and then by a narrow railway to Boot at the head of the Eskdale Valley. It is a very beautiful country. We visited a pretty little waterfall in a beautiful ravine. The "Pikes" were very clear, and the whole scene very fine.

June 26. Newbould left. We gathered *Briza* for winter decoration.

June 27. We walked to the hillside between Meathop and Low Meathop to find *Polypodium calcareum*, which we obtained in abundance on the right of the road as you ascend beyond the upper gate.

* "The Cambridge Seven," who chose Professor Babington to be chairman of the Meeting.—Ed.

June 30. We drove to the foot of the hill on the way to Meathop; soon afterwards walked down a lane (where we found *Fly Orchis*), and across two fields to an extensive peat moss, where peat is cut for fuel, here grows *Vaccinium oxycoccos*, *V. Myrtillus*, *Andromeda*, *Drosera anglica*, *Lastrea uliginosa*. We passed out of it at the north-west corner into the road from Meathop to Lindale, and so home.

July 1. Found what is perhaps *Sclerochloa Borreri* on the shore; also *Zannichellia* in the ornamental water.

July 2. Home safely again.

July 4. To Sandford Park, to Mrs. Guest.

July 6. Drove to Woodstock and Blenheim; found the house nearly empty, and very little of it shewn; in a dismantled condition. Very much pleased with the so-called gardens and woods, although all in a very bad state. The trees are very fine, and various. Some magnificent beeches.

July 7. To Great Tew, where there is a beautiful monument by Chantry to Mrs. Boulton, in the church.

Aug. 6. We joined an interesting excursion of the Cambridge Antiquarian Society to Crowland and Thorney.

Aug. 25. To Carlisle.

Aug. 26. By Stirling to Killin.

Aug. 27. We botanized about Killin. Found 77 plants.

Aug. 28. Up Glen Lochay, nearly as far as the Falls. We found a great many more plants.

Aug. 29. We botanized on the hill called Monomore. In the afternoon we went along the road on the south side of the lake, as far as the bay into which the second stream falls, after passing Achmore Woods. We had tea in a cottage a little before that bay is reached.

Aug. 30. *Sunday.* Had two excellent sermons from Mr. Macdonald, of the Free Church.

Aug. 31. We went by the steamer to Taymouth, and saw the beautiful grounds of the Castle. The day was fine, and the voyage there and back delightful.

Sept. 1. We drove up Glen Lochay, as far as the schoolhouse, a little above Dalgirdy. We had a very nice tea at the farm, Tullich, after we had dismissed the carriage. We then walked down the Glen home. Mr. Macdonald gave us a very valuable address in the Killin Free Church Schoolhouse in the evening.

Sept. 2. Mr. Haggert, of the Bank of Scotland, a botanist, came in, and spent some time with us.

Sept. 4. To a bridge beyond the eastern entrance to Achmore, where we found *Polypodium Dryopteris*, and soon after *P. Phegopteris* by the road side; also near the road, *Trientalis*. . . . The rain had raised the river, and it was most beautiful at the bridge of Dochart.

Sept. 5. To Finlarig Castle, and had a long talk with the Marquess's head piper. Also we visited the MacNab burying ground.

Sept. 7. We drove to Lawers, and took tea at the hotel, and back in most beautiful weather.

Sept. 8. Left Killin. . . . To Dunblane. There we saw the beautiful Early English remains of the Cathedral, and a curious Norman tower. Also Archbishop Leighton's library. To Aberdeen for British Association. Were received as guests, by Miss Proctor, at Badentoy House, Queen's Gate.

Sept. 9. British Association Meeting commenced.

Sept. 12. We went by invitation to Balmoral. The country looked beautiful.

Sept. 13. *Sunday.* We heard a beautiful sermon in the morning, and an equally poor one in the evening; both at Free Churches.

Sept. 14. An interesting party in the afternoon at Old Aberdeen, given by the Professors resident there. We saw the fine library, the old chapel with beautiful carving, and the repaired nave of the Cathedral.

Sept. 16. To Braemar.

Sept. 17. We drove up the river. Crossing it soon we reached Quoich, then to the Linn of Dee, and down the south side by the beautiful ravine and falls of Corriemulzie. We returned to Aberdeen, meeting the Queen in an open carriage in heavy rain.

Sept. 18. To Crail.

Sept. 20. *Sunday.* Twice at the Free Church, hearing two good sermons.

Sept. 21. First, to Fife Ness, going by the direct road, and returning by the shore. Second, along the western shore as far as some remarkable caves called the "Coves," near the "Hermit's Well," then to the road, by which we returned from Barnsmuir to Crail.

Sept. 23. To St. Andrews. There we visited the two colleges, most admiring St. Mary's, and the fine ruins of the Cathedral and castle.

Sept. 25. By train to Anstruther, and returned by the coast.

Sept. 26. I took a walk with Mr. George Sim, a botanist here, as far as the caves called the "Coves," and the "Hermit's Well." In the caves there are some curious ancient Greek crosses.

Sept. 29. To St. Andrews. Visited many of the interesting objects there.

Oct. 1. We went to Fife Ness, returning by the shore. In the cave at the Ness we saw some crosses like those seen on the 26th, and an apparent vertical ancient inscription of a Christian character. I do not find these crosses mentioned in any book which I have seen. *Erodium moschatum* grows by the life-boat at the Ness.

Oct. 2. We drove to Dr. Cleghorn's for lunch.

Oct. 3. We went by train to Dunfermline. We visited the abbey and the adjoining ruins, the park, city hall, and Queen Margaret's Cave, returning to Crail in the evening.

Oct. 15. Home.

Oct. 28. We went with the Cambridge Antiquarian Society party to visit Audley End.

Nov. 30—*Dec.* 2. The Rev. A. M. W. Christopher came for some meetings. . . .

Dec. 23. After having been occupied for about a month in a movement to relieve the postmen from work on the Sunday, I this day sent a memorial to the Mayor for presentation to the Town Council, in favour of stopping the delivery of letters in Cambridge on Sunday, from sixteen of the clergy and ministers.

1886. *Feb.* 15. Miss Ellice Hopkins came to address a meeting, and left the following day.

April 13. We went to Royston and found the *Anemone Pulsatilla* just coming into flower.

April 16. My dear friend, W. W. Newbould, died at Kew. I had known him for at least forty years, since he was introduced to me by Henslow in the Grantchester fields.

May 15. Mr. Stevenson Blackwood came, and took meetings at Trinity College, our house, and Guildhall.

June 2. We went with the Cambridge Antiquarian Society to St. Albans.

June 5. Miss Marsh came for two nights.

June 22—26. Mildmay Conference. To Southborough.

June 28. Drove with Mrs. Ravenscroft (Eliza Babington) to Penshurst.

July 6. I went to Bulkington to vote for the M. P. (north-east division of Warwickshire). Owing to an accident on the rail I had not time to do more than vote and return. I had voted in the morning at Cambridge (West Cambs. Election). At this election I discovered that my admission to the M.A. degree at Dublin in 1836 gave me a vote for that University, which was accepted when tendered.

Aug. 4. Excursion of the Cambridge Antiquarian Society (Castle Hedingham and Maplestead).

Aug. 17. Left home, and reached Berwick-on-Tweed the same evening.

Aug. 18. Dr. Philip Maclagan shewed us about the coast near at hand. We looked for *Sisymbrium Irio*, but is not now to be found. In the evening we called upon Mrs. Barwell Carter, the daughter of Dr. G. Johnston.

Aug. 19. We went by train to Norham, and visited the castle and church, where is Dr. Gilly's monument. The church has not been improved by recent "restoration." We also called upon the Misses Dickinson, who shewed us a number of beautiful drawings of plants, and were very kind.

Aug. 20. Dr. Maclagan took us, with some of his family, to Holy Island. It was a most beautiful day, and we saw the ruins and the coast with much interest.

Aug. 21. We took tea with Mrs. Barwell Carter, and saw many of Mrs. Johnston's drawings.

Aug. 23. To Perth. "Royal George" Hotel.

Aug. 24. Dr. Buchanan White called in the morning, and took us to the Natural History Museum, which we examined with much interest. It is excellent, and excellently arranged. In the afternoon we went to his house, and saw his great collection of rock plants, mostly from the Highlands.

Aug. 25. We spent some of the morning with John Sim, the old soldier and botanist. In the afternoon we went with Dr. and Mrs. and Miss White to Kinnoull Hill, and much admired the view.

Aug. 26. By rail to Blairgowrie, and then by carriage to the Spital of Glenshee . . . on to Braemar.

Aug. 27. We called upon Mr. Gordon, the minister, and met there the Bishop of St. Asaphs.

Aug. 28. We went with the Bishop and Mrs. Hughes and others to the hill called Morrone. I only noticed specially *Trientalis europaea*. We dined with them at the "Fife Arms."

Sept. 2. We went up Morrone as far as the station for *Rubus Chamaemorus*, which is very abundant at a little to the left of the first obelisk on the ascent. There was a tolerable quantity of fruit.

Sept. 14. We drove to the Linn of Dee, and on through Glen Lui to the junction of Glens Lui Beg and Derry, in full view of Ben Muich Dhui. Nothing could have been more beautiful than the upper part of these valleys; also the Dee was in full strength from the rain of yesterday, so that the Linn was magnificent.

Sept. 15. We walked to the top of Morrone (2819 feet). It is an easy ascent, although rather steep at first. The panoramic view is magnificent. May God be thanked for giving me power to go up.

Sept. 16. We went to the Queen's Drive, and found in the ravine near Dubh-chlais a very remarkable bed of *Polypodium Dryopteris.*

Sept. 17. Drove to Loch Callater Lodge, and then walked along the south-west side of the valley to the upper fork of the stream (1797 feet on the map), and then returned. The path is scarcely practicable; the views magnificent.

Sept. 18. We went to see the Braemar Castle. It is of very little interest, as it was built for soldiers only.

Sept. 20. In the evening I gave a lecture in the schoolroom about Braemar to a large audience.

NOTES FOR LECTURE.

Asked to give a botanical lecture. Far too technical.
General ideas of Braemar of more interest.
My first visit. Came over from Clova to Loch Cander. Path since closed. Now open partly. Path, not hills, open. Could go about *then* to collect.
Deer now favoured, not sheep.
Braemar then small and unfrequented. One small Highland inn.
Braemar long since = clans. Still longer since = glacial mountains.
Moraines, rivers.
Snow now on mountains not really perpetual snow.
Hills a few feet too low for it in this latitude.
Vegetation (1) arctic, and (2) southern mixed.
(1) Remains of glacial period.
(2) Came since departure of ice.
(1) Now found in Scandinavia and Lapland.
(2) Now in England and south of Scotland.
Plants do travel. *Veronica Buxbaumii.*
Plants do remain behind. *Rubus Chamaemorus* (Cloud Berry).
As we go north crops and vegetation change. Wheat—oats.
600 feet elevation = 1 degree of latitude. So crops and fruit later here. *Lime.*
Climate less rainy than west coast. Gulf stream. Hills to the west.
Power of observation. Eyes and no eyes.
Library.*

Oct. 1. Reached home.

Oct. 18. We went to London, to the consecration of Bishop Parker.

Oct. 26. Bishop Parker came to us. Maxwell, Lukyn Williams, Lea Wilson, and Thomas came to meet Parker. We had the Holy Communion at Trinity Church on the morning of the 27th. There was no frosty night in October, and only three moderately frosty nights in November.

Nov. 10. Mr. Hanbury came to study *Hieracia.*

Dec. 1. The frost began.

Dec. 2. The Memorial Stone was laid of the Henry Martyn Memorial Hall. Very heavy snow at Christmas.

* The proceeds of this Lecture were in aid of the Braemar Parochial Library.—ED.

Dec. 31. Exceedingly high barometer, 30·50.

1887. *Jan.* Very rough weather, with an exceedingly varying barometer, continued in the early part of the month—up to 30·60 and down to 28·80.

Jan. 9. Our dear friend Cory died at Dublin.

Feb. 1. Dr. J. E. Maxwell and Mr. Eugene Stock came, and held a very good meeting in our house for Medical Missions (University-men).

Feb. 7, 8. On each of these days the barometer registered 30·60. There was a singular variation of the barometer in February, several times as low as it well could be, and equally often as high.

April 2. To Hastings.

April 3. *Sunday.* St. Mary in the Castle.

April 4. To Fairlight Glen; the day was beautiful, and all very bright and pleasant.

April 9. Went by train to Winchelsea; walked to Rye, seeing all the antiquities at each place with much interest, especially the two beautiful churches. In Rye Church I fell off a step, and narrowly escaped serious injury. Thanks be to God for His care of me.

April 11. We went by train to Pevensey, and examined the Castle, and both the churches, which are now in good condition, far different from their state when I before saw them.

April 12. We went to Battle . . . saw all that is shewn at the Abbey.

April 16. We drove by St. Leonards and Bexhill and Ninfield to Hurstmonceux Castle and Church: at the latter we saw the tombs of the Hare family. We returned by a more beautiful road, by Battle and Hollingdon. We had a most interesting drive.

April 18. Returned home.

April 20. I went to London to dine with the Lord Mayor at the dinner of Cambridge men.

June. All the events connected with the "Jubilee" went off with success.

June 23. We went for a day in Wicken Fen.

June 25. To Lichfield.

June 29. At the Deanery to see the Codex Lincolniensis. Saw *Ballota ruderalis* in the lane running east and west to the north of the large reservoir.

July 1. To Sandford Park, to visit Mrs. Guest.

July 4. Drove to Bloxam to see the very interesting church. There has been no rain, except two or three heavy showers, since June 2, and very little for a month before that date.

July 28. Alfred Sealy and his son, Arthur, came to stay with us.

Aug. 2. We went, taking with us Alfred Sealy and his son, Arthur, to Wicken Fen; we drove there and back.

Aug. 9. Went to Rossall Pit at Ely, with Potter, Cowell, and some students. We found *Stratiotes* in abundance, but without flower; also *Villarsia nymphaeöides*, and on our way back *Hydrocharis*, by the north side of the river. We took a boat from Ely to the Pit.

Aug. 13. Braemar.

Aug. 18. Walked along the Queen's Drive. Found *Carex pallescens*. Attended an interesting Bible Reading concerning the Life of Jacob.

Aug. 21. *Sunday.* The Crown Prince of Prussia (Emperor Frederick) was at our church in the evening, and close to us.

Aug. 24. We took Alfred Fordham with us, and went along the north side of Morrone, and round its north-east end to a stream which we examined well, finding especially *Asplenium viride* and *Pyrola secunda*.

Aug. 27. We found a large patch of *Arctostaphylos Uva-ursi* in fruit.

Sept. 8. We took a carriage and went to Derry Lodge, from whence we walked some way up Glen Derry, to a point from whence the view is very grand, to the head of the glen, where the path turns to the right, to ascend Ben Muich Dhui. Mr. and Mrs. N. Bridges, General and Miss Goddard, and the Rev. W. Gordon (the minister) formed our party. It was a most beautiful day's excursion in the grandest glen which I have seen.

Sept. 10. We walked with General Goddard to get *Linnaea borealis*. . . .

Sept. 17. We went with Mr. Bridges and General and Miss Goddard to Loch Cander, driving to Loch Callater, and then walking over the hill to Loch Cander. It was a fine day, but the walk was very fatiguing. I am thankful to say that I did not suffer from it.

Sept. 20. This beautiful day we went with Mr. and Mrs. Staples to the top of Morrone, examining much of its side for *Vaccinium uliginosum* and *Azalea procumbens*, finding both in plenty after an extended search.

Sept. 21. Presided at a lecture by Mr. Staples, on "The Stone Age."

Sept. 23. We drove to Crathie, and visited the Kirkyard, returning by Aberarder and Failagie. A beautiful drive.

Sept. 27. Went to Tomantoul for roots of *Pyrola*, but with very little success, owing to the long rhizomes rooted in amongst the stones. Barometer 28·07. Miss De Bröen's meeting for Mission at Paris.

Sept. 28. Took Miss De Bröen for a drive by the Quoich and Linn of Dee.

Sept. 30. To Edinburgh.

Oct. 1. Dined with the Rev. Dr. James MacGregor.

Oct. 2. *Sunday.* Went to St. Cuthbert's Church in the morning and afternoon, and in the evening to a meeting in connexion with the despatch of a Medical Missionary to the Ion Keith-Falconer Mission.

Oct. 3. Returned by way of Doncaster.

Oct. 18. Opening of the Henry Martyn Hall.

Oct. 21. Went to see the Queen's Jubilee presents at St. James' Palace.

Nov. 11. Miss E. Hanbury came to speak at the China Inland Mission, at which I presided.

Nov. 24. Sir Arthur Blackwood came, and we gave a dinner-tea to about 120—130 officials at the Post Office, in the reading-room of the Young Men's Christian Association, where he spoke to them.

1888. *March* 5. Miss Fanny Butler, M.D., and her sister came to hold a Medical Missions Meeting at Trinity College Lodge on the 6th.

April 11. Mr. Gustave Masson came to visit us. The first mild day of the season. All vegetation very backward, from the inclement winter in early spring.

April 23. First lecture. Four men.

May 3. Miss Weston came to hold meetings. A very full one in the Guildhall.

May 4. Miss Weston's meeting in our house. Spring weather began about May 1. It is the latest season that I have known, as shewn by the want of plants for use at lectures.

May 11. Our dear friend, the Rev. F. F. Tracy, died at 10.30 a.m.

May 14. The funeral of our dear friend at Cherry Hinton at 5.30 p.m.

June 8. Sir Arthur Blackwood came.

June 19. We went to Aldeburgh-on-Sea, where we found very pleasant quarters.

June 21. To Framlingham. The Castle looks fine externally, but is only a wall from within. It has not much of interest. We found *Acorus Calamus* in the moat behind the Castle.

June 24. *Sunday.* Two very nice services at the church.

June 25. Home. The Rev. H. Carless came on a visit prior to his departure to Persia.

June 30—*July* 5. To Mrs. Guest at Sandford Park. . . .

July 18. Visit of the Bishops to the University. We receive Huron and Moosonee.

Aug. 4. We went with Professor and Mrs. Cowell to Mildenhall, and had a very pleasant botanical ramble between the roads to Lakenheath and Brandon.

Aug. 10. Attended the funeral of Mrs. H. E. Strickland at Cherry Hinton.

Aug. 15. To Braemar.

Aug. 18. Miss Welsh (Girton College) went with us half-way up Morrone. The vegetation was very much more backward than last year.

Aug. 22. Miss Welsh joined us in a drive up the river Dee as far as Bynach Shieling. We then walked as far as the boundary of the counties on the way to Glen Tilt. A most beautiful day.

Aug. 29. Miss Welsh took a drive with us to Derry Lodge; we then walked up the Glen Lui Beg and the Lui Beg burn towards Ben Muich Dhui for about a mile, thus obtaining a beautiful and close view of that mountain. The vegetation of these glens is far from being interesting. The mountain plants do not seem to have descended with the water.

Sept. 3. Miss Welsh walked with us to the Prince's Cairn, going by the path, and returning by the road.

Sept. 4. We went round the allotment field a little beyond the church, returning by the lane up to the cemetery. The banks of the rivers are singularly rich in flowers.

Sept. 5. We drove with Mr. and Mrs. Moule and Miss Welsh to Loch Callater. I found a *Callitriche* cast on the shore, which may be probably *truncata.* It had no fruit or flowers.

Sept. 8. We went with Miss Welsh to the top of Morrone. We gathered many plants, but not in flower. *Azalea, Cornus suecica, Juncus trifidus, Vaccinium uliginosum, Lycopodium alpinum, L. annotinum,* etc. We were many hours on the hill, and met Dr. Westcott there, and saw the Archbishop of Canterbury.

Sept. 9. *Sunday.* Dr. MacGregor preached a beautiful sermon at the parish church.

Sept. 10. We examined the river bank below the road to Glenshee, with no botanical result.

Sept. 11. Miss Welsh went with us to Loch Builg, the water from which flows to the Spey. It was a magnificent drive over a great elevation, by Ben Aven. We went by Failagie and Balmoe, and returned by Glengairn, joining the main road by Balmoral. We were very much struck by the Highland character of that glen, and the fine mountain view of the whole drive.

Sept. 17. We took Miss Welsh for a walk to see the *Linnaea* . . . . and then by Failagie and Balmoe to the inn at Inver, where we had tea, and returned by carriage. It was a walk of about seven miles. A magnificent day.

Sept. 19. We drove with Mr. and Mrs. Moule along the Glenshee road to Allt Bhruididh (1663 feet elevation) . . . ascended Glas Maol (3502 ft.). I found a few plants at the extreme top of Canlochan Glen. The first part of the ascent is not clearly defined, and steep (although marked very clearly in the map); there is then a good path over the hill.

Sept. 21. We drove with Mrs. R. B. Batty and her friend to the Spital of Glenshee, returning alone. It was a very fine day, and we saw the country beautifully; the view of Glas Maol from that side is magnificent.

Sept. 22. We took Mr. and Mrs. Moule to Loch Builg; the day was very fine. We walked as far as the river from Loch Aven, and had a beautiful view down the valley, and also of the back of Ben A'an.

Sept. 30. Snow on the hills, and partially lying below. Very cold, and snow showers all day.

Oct. 1. Very heavy snow showers all day. The hills covered with snow.

Oct. 22—*Oct.* 24. Bishop Horden (Moosonee) came.

Nov. 17. Sir Arthur Blackwood came and addressed a meeting at our house (University-men). On the Sunday met the Telegraph boys, and in the evening had a meeting in Alexandra Hall in connexion with the Cambridge Inter-Collegiate Christian Union.

1889. *Jan.* 6. Temperature 15°. But the frost did not last many days.

Jan. 12. Churchill Babington died at Cockfield Rectory.

Jan. 17. We went to the funeral of my dear cousin, Churchill Babington, at Cockfield. Mason and Mayor went with us. All went on well, and we sorrowfully laid his remains in the grave.

There was a continuance of very changeable weather all through February, with exceeding and sudden variations of the thermometer.

April 12. Dr. Kennedy's funeral.

April 13. We went to Sidmouth.

April 17. Drove to Sidbury, and saw the interesting semi-Norman church. There are two curious figures on the west side of the tower; and two windows (closed) high up in the chancel arch.

April 18. We walked to Harpford Wood to find flowers abundantly. Saw a few plants of *Ruscus* in flower, also *Chrysosplenium oppositifolium.*

April 20. To Beer, which is a beautiful spot, and over the hill to near Seaton.

May 31. The Rev. J. Worthington Atkin came to take sermons and meetings for the "Pouring out of the Holy Spirit."

June 13. I laid the first stone of St. Philip's Church.

June 26. We went to spend a week at Sandford Park with Mrs. Guest.

July 11. We had a nice day at Hunstanton. *Statice reticulata* in flower.

July 18. Went with Cowell to spend the day at Mr. J. Pollard's at High Down, near Hitchin. Had two nice botanical walks there. *Monotropa* was the best plant seen, but also saw *Pinguicula* on a singularly dry hill-side.

July 19. Went to Peterborough, Crowland, and Thorney.

July 23. We went to Wicken Fen.

July 25. Cambridge Antiquarian Society excursion to Lincoln. Canon Venables took us over the city and Cathedral.

Aug. 14. To Braemar. The warm weather at the early part of the summer has caused the flowering plants to be over earlier than usual, but the *Calluna* is very beautiful.

Sept. 3. Found, in the pond behind Corrie Ferrigie House, *Chara fragilis* and a *Sparganium*, perhaps *affine.*

Sept. 4. Examined the shingle bank on the right hand side of the Clunie below the Dee Road, finding *Hieracium prenanthoides*, *Tanacetum*, *Oxyria*, and *Lupinum.*

Sept. 5. Went to the Highland Games at Old Mar Lodge. The Queen was there, and the new Duchess of Fife. It was a beautiful day, and a most fitting site in front of the house for them. We were much interested.

Sept. 10. Drove with Mr. N. Bridges and Mrs. O'Malley to Loch Muich and saw the Queen's Altnaguithsaich Lodge, and walked along the shore of the lake for some distance. Very pleasant and interesting day. We saw much of *Vaccinium Vitis-idaea* in flower.

Sept. 20. There was snow on the higher hills this morning, and heavy showers all day in the valley, and snow on the hills.

Sept. 21. Snow on the higher hills. A heavy snow-storm in the afternoon in the valley; snow remaining on the hills as low as Tomantoul. Very cold.

Sept. 26. Went some way up Morrone to see the mountains and the snow.

Oct. 1. Left Braemar. . . . Edinburgh.

Oct. 2. Drove to the Forth Bridge, which is nearly finished.

Oct. 4. Home.

Oct 5—7. At Wicken Vicarage.

1890. *Jan.* Very mild, but changeable weather. A succession of heavy storms of wind most of the month.

Jan. 25—27. Major Liebenrood came to us, to address Undergraduates at C.I.C.U.

Feb. 21—25. Archdeacon and Mrs. Clarke, from New Zealand, with us.

Feb. 27. Heavy snow this evening, and the following night.

May 23. Mrs. Robert Stewart came, with a Chinese lady called Mrs. Ahôk. They met a very large meeting in the Guildhall in the evening.

June 10. To Southwold.

June 12. We drove by the Blythburgh Road to Dunwich. It is a beautiful road, through lanes, with trees and flowers abundant; and between Blythburgh and Dunwich over open heaths of much beauty. The church at Blythburgh is in a sad state of dilapidation, and far too large for the parish, which cannot provide the large sum required for its repair. This is sad, for it is a very fine building. The ruins at Dunwich are very much as they were when I saw them many years since, and the sea does not appear to be encroaching much. We returned by Walberswick and the Ferry.

June 14. We drove to Covehithe to see the ruins of the magnificent church, which seems to be of early Perpendicular date. The font is most beautifully carved. We returned by Wrentham and South Cove. It was a fine day and a very interesting drive.

June 16. Another beautiful day. We have been most highly favoured. We went to Walberswick and called on the vicar, the Rev. T. H. R. Oakes, and visited the remains of the fine old church, of which only a small part is used.

June 20. Home.

June 27. We went to the Woolstreet, and found the flowers peculiarly abundant.

Aug. 1. To Braemar.

Aug. 4. We met many friends, and were cordially received by them.

Aug. 5. We attended a very small but interesting Scottish Bible Society Meeting in the parish church.

Aug. 6. We went through the fields to the upper bank of the Clunie and the Dee, finding many interesting plants. In the afternoon we met my old friend, Townsend, at Staples' house at tea.

Aug. 7. It being a very fine morning we went with our friend, Townsend, to the wood on the north side of the Morrone, and as far as the Prince's Cairn, returning by the footpath. We found many plants in flower which I had never seen in that state. The season is late, and we are early.

Aug. 14. We saw the *Rubus Chamaemorus* in flower and fruit.

Aug. 18. We walked along the beautifully flowery western bank of the Clunie, below the bridge.

Sept. 4. A magnificent day, and we went to the top of Morrone, and found an abundance of *Azalea*, also *Juncus trifidus* and *Vaccinium uliginosum;* also a few fruits of *Rubus Chamaemorus.* This being the day of the games, there was no bread baked in the place! Townsend brought me a new (?) *Euphrasia*, which he had found on boggy land.

Sept. 9. Townsend went with us to Loch Callater, and we walked along the Clova path, on the north side of the loch, to a little above the entry into it of the burn. We found several *Potamogetons* and a *Chara* and *Callitriche* washed ashore. The elevation is 1627 feet.

Sept. 10. We drove to Derry Lodge, and then walked up the Glen Derry to some distance, beyond the bridge over the stream, returning to have tea at the keeper's cottage. It was a rather dull but beautiful day for the walk of about four-and-a-half miles up the glen.

Sept. 29. Left Braemar.

Nov. 22. Sir Arthur Blackwood came to meet the Post Office Association, and have a meeting in our house on Sunday, Nov. 23rd, for University-men. I thank God for His infinite kindness in allowing me this day to enter upon my eighty-third year.

Nov. 29. Yesterday and to-day have been very cold (about 22°), and snow.

Dec. 14. Temperature 15°; 15th, 17°.

Dec. 19. A heavy fall of snow; six inches deep in the Botanic Garden. Thermometer 19°.

1891. *Jan.* 1. A thaw this morning, after a frost from Dec. 13th.

Jan. 8. Another heavy fall of snow last night. The thaw of the 1st did not last more than for that day. There has been a frost ever since.

Jan. 10. Our thermometer outside the window again down to 6° last night.

Jan. 12. A thaw. The frost returned very severely until the 22nd, which was a rapid thaw, but the frost returned the next day.

Jan. 24—26. Major Robertson, R.A., was with us for meetings (University-men—C.I.C.C.U.).

Feb. 14. The Rev. W. Madden came to us for some Sunday addresses to Undergraduates.

Feb. 18. A dinner, on the invitation of about eighty-five medical and biological men, to Sir G. M. Humphry, on his knighthood, at Downing College.

March 5. A heavy fall of snow this morning. This was the beginning of the great storm which was so severe in the south and west, but only slight here. Constant cold until the middle of April, and east winds afterwards.

May 16. A heavy shower of *snow.*

June 10. To Peterborough (where we met Canon Venables, and the Dean took us into the Cathedral, which was not open); to Crowland and Thorney; then through the flooded Wash of the Nen to Whittlesey, and back to Peterborough, to catch the train to Cambridge.

July 4. We drove to Wimpole, putting up at the "Hardwicke Arms." We saw the church, and after lunch walked to Croydon, visiting Arrington church by the way. In Arrington church there are the remains of a piscina like that at St. John's College. The walk to Croydon by the road commands a beautiful view all the way. We returned by a footpath through the fields. We then drove to Longstowe, where the churchyard is beautifully kept; then by Bourn to Caldecot, where there are fine old stalls in the chancel; to Toft, where there are some remains of elaborate figures in the church, and home by Barton.

July 10. We went to Sandford Park to visit Mrs. Guest.

July 14. There was a meeting in the house in support of Count Campello, and Miss Ray spoke well, and also Canon Thornton.

Aug. 15. To Braemar.

Sept. 1. A stormy day after a very stormy night. Barometer 27·70 at 1160 feet elevation.

Sept. 7. We went to Glen Lui Beg. A most beautiful day.

Sept. 10. We went with the Halliday Douglas party to Loch Builg. A most splendid day. An Aurora Borealis at night.

L'ENVOI.

With two brief exceptions the entry of Sept. 10 closes the record which during a whole life had been faithfully kept. This record has been given, in accordance with the earnestly expressed wishes

of many friends, and thankfully given, since in its simple and truth-loving words it unfolds *himself*. This is the sole purpose in the publication of this volume, that he of whom it testifies may be known more fully in all the many-sidedness of his wondrous character. Should the study of this pure and beautiful life be the means of leading others to desire to know its secret, and thus serve as an inspiration for other lives, this volume will indeed fulfil its mission.

It is not easy to describe a life which is thus varied in its interests, therefore the possession of so full a journal is something for which to be unspeakably thankful. Little remains to be said: the friends who asked for the Journal, have also entreated that some words may be added to it about the four years which followed the period where it ceases. On Sept. 15, 1891, the first symptoms of anything which could point to coming illness were felt, and advice was at once sought from a friend then in Braemar (Dr. Halliday Douglas, of Edinburgh); but not till Thursday, Sept. 17, did that illness develop itself in all its terrible suddenness, and awaken the gravest fears on the part of the two medical men who, from that morning, were in almost hourly attendance upon him. What that time of anxious watching was, and the—humanly speaking—almost hopeless character of the illness, cannot be unfolded here. For many, many weeks but little, if any, prospect could be entertained of his ever seeing his Cambridge home again; but the Lord of healing stretched forth His hand in power and tenderness, and heard the earnest cry that went up from countless hearts, and on Wednesday, Dec. 2, we were permitted to begin the journey of 700 miles, from the cottage in the Highlands to the dear home at Cambridge. It was a wonderful journey, and accomplished from first to last without one drawback. This volume may, and probably will, fall into the hands of some of the friends who united in a ministry for him, which can never be forgotten. That little mountain village is a favourite resort; and not only from those personally known, but from entire strangers, was received a wealth of sympathy and practical kindness, the memory of which must abide amongst the special mercies which cheered and enriched those months of watching and waiting. It is impossible here to enumerate those whose names are thus held in grateful remembrance, but one exception there must be. This record cannot close without a testimony of deep appreciation and gratitude for the great professional ability and most devoted care and watchfulness of Dr. James Noble. That in a time of such grave need so skilful and tender a physician should have been raised up, is something which no words can repay. His name is a household word, as that of the human instrument to whose wisdom and care we owe it that that journey home was ever permitted to be undertaken. He watched his patient unweariedly, and accompanied us the 18 miles drive along Deeside, saying that if he could comfortably face that, the remainder

of the journey was ensured. He marvelled to see his patient, as he lay, watching the familiar mountains, and enjoying their wealth of beauty, in winter garb of purest snow, on a day which was summer-like in sunshine and blue sky. At Ballater this faithful friend parted from us, and never ceased to prove himself as deeply interested as ever in his loved patient. Kind friends awaited our arrival at Edinburgh; and on the Berwick platform—although it was midnight—stood his oldest friend, cherished and valued through all the years, Dr. Philip Maclagan, whose visit to that ambulance was as that of a heaven-sent messenger. Little could it then be expected that he would be the first to reach the other shore, for in the following May, the same illness (acute pneumonia) laid him low, and Berwick can never cease to mourn its best friend.

The return to Cambridge was anxiously awaited by many kind hearts, and during the nearly four years which were added after that return, the sympathy and fellowship of friends afforded true pleasure and comfort to him who slowly gathered strength, whilst patiently waiting, and bravely enduring his enforced retirement from active life.

All this time, whilst unable to pursue his former work—in consequence of the development of a rheumatic affection of the limbs—the clearness and strength of his intellectual powers were a constant wonder to those who came in contact with him. Others, especially Professor Mayor, have testified to this. It cannot be unfolded in detail by the one who was privileged day by day to behold all this beautiful patience, this perfect peace, this unfailing praise. Such details are too sacred, they are simply named here as a grateful tribute for the priceless blessing of being permitted thus to witness and to share his life.

During 1892 no journey was possible, but very much enjoyment was derived from long drives in many directions, where, to those who can see special features of beauty in our picturesque villages, and to whom all Nature is laden with joy and interest, there is a wealth of delight. In the following summer (1893) by the special wish and advice of the physician who watched his case, a change of air was recommended. A delightful resting-place was found in Wensleydale. The pure air of Leyburn, and its beautiful neighbourhood, afforded real benefit and pleasure. The power to walk was to a considerable extent regained, and several of the old churches and castles were visited and enjoyed. In the following year (1894) the same advice was given, and this time it was to beautiful Teesdale that we went. Between Barnard Castle and Middleton lies the village of Cotherstone, at the junction of the Balder and the Tees; and there a pleasant home was found, within a few minutes of a heather-clad moor. From this place many drives were enjoyed, including two to the High Force in Upper Teesdale (11 miles distant), that home of some of Britain's rarest plants. What keen delight in sending to see if *Potentilla fruticosa* was to be

found, a plant which only grows there and in Wastdale. How he enjoyed seeing it on my return to him, and had it at once despatched for our Botanic Garden. Another day we drove to Wycliffe (the home of the great Reformer), where we had been so hospitably entertained by the Rector on a previous occasion (*see* Journal, Sept., 1881). One drive we took to the Great Hury Waterworks in Baldersdale, whence the towns of Stockton and Middlesborough are supplied. On our return home, three happy days were spent in York, under the roof of the widow of his dear and valued friend, Mr. James Backhouse. It was delightful to share his enjoyment of her lovely private gardens and plantations, where *Rubi* and *Erica vagans* furnished untold pleasure. On Sept. 14 he safely reached Cambridge, not travelling as an invalid, but able for an ordinary first class carriage, thus proving what benefit had been gained by a sojourn in the bracing air of Yorkshire Dales.

All through the winter—which it will be remembered was very severe—he was wonderfully well, kept from all cold or exposure; and in the enjoyment of the society of valued friends, and a wide range of literature, including records of Missionary work in all lands, his mind vigorous and bright, his heart in ever-unbroken fellowship with his Lord, that last earthly winter and spring were spent. It had been again definitely urged by his medical adviser that we should find a suitable scene of rest and refreshment for some of the hotter weeks of July and August. All had been arranged to meet this wish, and a choice spot had been found in sweet Annandale, when, very suddenly—on May 25—the gentle summons came, which only too surely seemed to tell of the possibility of another journey for him. In the early morning of July 22nd, 1895, the weakness and suffering of earth were exchanged for a sight of Him whom having not seen he loved.

Not here . . . . but yonder
At his Saviour's side
Behold him now, in glory glorified!
Death is behind! and on the shining shore
Which never hears the wild waves distant roar,
He stands with Christ.
And we would not, had we e'en the power,
Expose that precious soul for one short hour,
To breast the billows, and to feel the lash
Of angry waters.
We would rather strive in heart to rise
And dwell with him beneath unclouded skies,
And with him sing the blessed song of Heaven,
Jehovah glorified, and man forgiven.

"I heard a voice from Heaven, saying unto me, Write, Blessed are the dead which die in the Lord . . . . . yea, saith the Spirit, that they may rest from their labours; and their works do follow them."

A. M. B.

NOTES ON JOURNAL.

Per veder chi è, guarda con chi pratica.—Prov.
Birds of a feather flock together.

School at Bath.

Not to name the school or the masters of men illustrious for literature, is a kind of historical fraud, by which honest fame is injuriously diminished. I would therefore trace him through the whole process of his education.

SAMUEL JOHNSON, *Life of Addison.*

Page 2. *Mr. W. Hutchins' school.* Mr. Hutchins must have been an inspiring teacher. He was son of Mr. George Hutchins of Collingbourne, Wilts, and matriculated from St. Alban Hall, Oxford, 1 Dec. 1817, aet. 22, B.A. 1821, M.A. 1825. When he was a candidate for a mastership at Coventry in 1833, Babington offered to obtain from Mr. Bushby a certificate of his own proficiency as a freshman; this might help to carry the appointment. He was 14 years minister of Margaret's Chapel, Bath (cf. *Camb. Chr.* 6 Dec. 1845). Crockford, 1860, gives Russell Str., Reading, as his abode. He died 9 March, 1875, at his residence, Highfield, Lymington, aet. 79 (*Times*, 11 March), and was there buried 16 March, aet. 79, by the Rev. B. Maturin, vicar (*Register*, no. 2355, a copy kindly sent by Mr. Maturin, who says: "I well remember the Rev. W. Hutchins and his wife; they lived here for some few years, and I enjoyed his society very much. He was a quiet Christian gentleman.") Inscriptions on the base of the cross erected to the memory of the Rev. William Hutchins in Lymington Parish Churchyard.

SACRED
TO THE MEMORY OF
THE REV^{d}.
WILLIAM HUTCHINS
DIED THE 9TH MARCH, 1875.
"In Thee is Life, and certain hope of the Resurrection to Eternal Life."

ALSO OF
ANNA MARIA
WIDOW OF
THE REV^{d}. WILLIAM HUTCHINS
DIED JUNE 2ND, 1877.

(*Copy sent by Mr. Maturin.*)

Canon Heaviside, a voice of weight in education, says of his old master: "I have always considered him a good scholar, and far above the ordinary schoolmaster of those days." Babington and Heaviside must have been among his earlier pupils. In Babington's library is a Greek Testament in calf, 'cura Leusdenii et Griesbachii. Londonii impensis G. et W. B. Whittaker 1823.' 12^{0}. "Mr. Hutchins requests the Favour of Mastr: Babington's Acceptance in Acknowledgment of His very meritorious Exertions since His Promotion to a Higher Class. 33, Grosvenor Place, Mar. 4, 1825."

Of Mr. Hutchins's pupils may be mentioned:

James William Lucas Heaviside, second wrangler, B.A. 1830, M.A. 1833, fellow of Sidney, professor of mathematics at Haileybury, who died 5 March, 1897,

aet. 88 (*Times* 8 March, p. 11 col. 6. *Guardian* 10 March, p. 379 col. 3. 17 March, p. 424 col. 1. *Record* 12 March, p. 247).

Charles Walter Eddy, son of the Rev. Charles Eddy, of Guilsborough; Hulme Exhibitioner of Brasenose, B.A. 1843, M.A. 1848; Radcliffe Travelling Fellow of University College and B.Med. 1849.

The late James Mitchell, M.R.C.S., whose name appears on the *pagina honorum* of St. George's Hospital, London.

Henry Woodhouse, head engineer on the staff of the L.N.W.R.

For a short time Charles F. Lowder (see Boase *M.E.B.* and *D.N.B.*) and the two Mackonochie brothers, the elder of whom became Recorder of Winchester and afterwards a County Court Judge; the younger, Alexander Heriot (see Boase l.c. and *D.N.B.*) was Vicar of St. Alban's, Holborn.

Sir Thomas Pycroft, K.C.S.I., who won the "Wynne Writership" while at Tr. Coll., Oxford. Married Miss F. Bates (*Journal* 30 March 1841). A distinguished judge in India. Died 29 Jan. 1892 (Boase l.c. and *D.N.B.*).

Robert John Bussell (afterwards Pettiward) a Suffolk squire, distinguished in the college examinations at Trinity, Cambridge, though he only took the ordinary pass degree; B.A. 1841, M.A. 1844.

Colonel Henry Charles Cunliffe Owen, of the Royal Engineers; did great service in South Africa, was severely wounded in the Crimea, secretary to the Exhibition of 1851; died at Plymouth, 7 March 1867 (Boase l.c. *D.N.B.*)

C. S. Blayds (afterwards Calverley) scholar and wit (Boase l.c. *D.N.B.*).

Mr. Hutchins' son, William Horace, was a friend of Goldwin Smith and John Conington at Magd. Coll. Oxford (Bloxam, *Register* II 121), B.A. Qu. Coll. Oxf. 1846. Since 1867 Rector of Saltfleetby All Saints, Louth, Lincolnshire. To him I owe most of the material for this note. He has a very handsome book, presented by Calverley to his father.

"Rev. W. Hutchins.
"From his grateful and affectionate pupil
"Charles Stuart Blayds
"1846."

In a letter (18 March 1897) he says: "I well remember to have seen Mr. Charles Babington when I was about five or six years old, and have often heard my father and my mother speak of him as one of the gentlest and most amiable of men, and as a famous naturalist." The father was very fond of quoting the Horatian verse

fungar vice cotis, acutum
reddere quae ferrum valet, exsors ipsa secandi.

no matter: mine be like the whetstone's aid,
which, blunt itself, lends sharpness to the blade.

FRANCIS HOWES.

P. 2. July 1825. *The thermometer.* So Leonard Jenyns, afterwards Blomefield, took notes of the weather when at Eton. *Chapters in my Life.* Bath 1889, p. 96.

P. 2. April 5 1826. This portrait still exists, and has a very winning expression. The high stock and curiously-cut coat-collar tell of bygone fashions. It is reproduced in this volume.

P. 3. March 27 1827. John Banks Hollingworth, B.A. 1804, M.A. 1807, B.D. 1814, D.D. 1819. Fellow of Peterhouse. He died 9 Feb. 1856. See F. Boase's *Modern English Biography*. C. C. Babington, as the Professor's certificate proves, must have come to college with the purpose of taking holy orders.

P. 4. May 2 1827. *Phrenological Society*. Phrenology was militant in these years. George Combe, in the *Phrenological Journal*, Sept. 1834, rebukes Sedgwick for not alluding to Phrenology in his *Discourse* (Sedgwick's *Life*, 1 406).

P. 4. April 23 1830. Lodgings at Mrs. Tomlinson's, Fitzwilliam Street. Thomas Whytehead (*Remains* 1877, p. 10) writes on 8 Mar. 1831: "My bedroom commands a splendid view of the Southern Road, towards the Cambridge Hills. The street is quite a new one in the suburbs, and in a very airy and eligible situation—Fitzwilliam Street." Charles Robert Darwin also (*Life* 1^3 67) lodged in Fitzwilliam Street for three months beginning 13 Dec. 1830.

P. 20. May 15 1834. *Natterjacks at Gamlingay*. C. R. Darwin's *Life* 1^3 187.

P. 33. Nov. 5 1834. *Bromby*. John Edward Bromby, fellow of St. John's, B.A. 1832, M.A. 1835, B.D. 1845, D.D. 1850, when he preached the Commencement Sermon: *The Irregular Element in the Church*. Vice-principal of Bristol Coll., married 20 Dec. 1836, at St. Paul's Church, Bristol, Eliza, 2nd daughter of R. T. Lilly, Esq., of Brunswick Square (*Cambr. Chr.* 14 Jan. 1837). At Bristol College he had as a colleague, Francis W. Newman. Principal of Queen Elizabeth College, Guernsey, 1847—55 (cf. *ibid.* 3 Apr. 1847). Curate of Hull 1855—7, Head Master of Grammar School, Melbourne, 1858—75 (cf. *ibid.* 12 Sept. 1857). Incumbent of St. Paul's, Melbourne, 1877. His wife, Eliza Sophia, died 29 Sept. 1883, at St. Paul's Parsonage, Melbourne (*Guardian*, Nov. 28, 1883, p. 1797*c*). He was born at Hull 23 May 1809, educated at Hull and Uppingham, and died at Melbourne 4 March 1889 (obituary from the *Melbourne Argus*, 5 March). He refused the chancellorship of Melbourne University. When £1000 was presented to him he founded a divinity prize at Trinity College, Melbourne. Brother of Charles Henry B., of St. John's, B.A. 1837, M.A. 1840, D.D. 1864, on his appointment to the see of Tasmania (cf. Heaton's *Australian Dictionary*), whose numerous works may be seen in an early Crockford. Bishop of Tasmania 1864—83; assistant to the Bishop of Lichfield 1882—91; to the Bishop of B. and W. 1891. The Bishop is still living; one of his sons, Henry Bodley B., was of Jesus, B.A. 1864, now Vicar of All Saints', Clifton; another son, and two grandsons, of Oxford. The Bishop's father, John Healy B., was fellow of Sidney, B.A. 1792, M.A. 1795, for 70 years Vicar of Hull, and died at the age of 97. A third son, Frederick William, was of the father's college, B.A. 1845, M.A. 1848.

P. 33. Nov. 17 1834. *Bowstead*. James Bowstead, Bishop of Lichfield 1843-5, migrated from St. John's to Corpus. See my edition of Baker, pp. 972—3. In 1832 he posted, with Leonard Jenyns, and Professors Henslow and William Clark, to the second meeting, held at Oxford, of the British Association (Leon. Blomefield, *prius* Jenyns, *Chapters in my Life*, 1889, p. 103). Unknown to *D.N.B.*. On his father, of Beck Bank, 'a grand example of a Westmoreland statesman,' and his dog *Boy*, see Sedgwick's *Life* II 94—7. F. E. Gretton, *Memory's Harkback* (1889) p. 90 "Bowstead I knew well at Cambridge. He became bishop, partly because he was second wrangler, in greater part because he was a Whig among many Tories. I

saw him later in London, carried like a log to his carriage—the penalty of an injured spine, which he paid for former successes as a Cumberland wrestler."

P. 33. Nov. 29 1834. *The address burnt.* No doubt at Thirlwall's instance, whose whole bearing in this business, as throughout life, is marked by dignity and lofty patriotism. See Cooper's *Annals*, IV 582—3 for the titles of the pamphlets on the controversy about tests in this year. Thirlwall's should be reprinted as part of a history of tests in the University. *A letter to the Rev. Thomas Turton, D.D. on the Admission of Dissenters to Academical Degrees. To which is added a second Letter, containing a Vindication of some passages in the first Letter*, Cambr. 1834, cf. *Letters of Connop Thirlwall . . . with . . . Memoirs by . . . Louis Stokes*, Lond. 1881, pp. 113—128. *Life of Adam Sedgwick*, I 417—428, II 173—4. Is. Todhunter, *William Whewell . . . . An Account of his Writings*, Lond. 1876, I pp. 91—92. Dr. Whewell's *Life* by Mrs. Douglas (1881), 158—170.

P. 37. April 13 1835. *Lawes.* His contemporary, John Lawes of St. John's, B.A. 1830, M.A. 1833. He was in orders, but seems long to have retired from active service, as his name does not appear in the earliest Crockford. He died suddenly, of heart disease, at 2, Winifred's Dale, Bath, 3 Febr. 1880 (*Times*, 6 Febr. age not stated). His wife, Sarah Anne, had died at the same place, 20 Apr. 1872 (*ibid.* 23 Apr.).

P. 38. May 6 1835. *Naturalists had two Bibles.* Sedgwick's *Life* II 581—2: "A meeting to promote national education was held in Norwich, Bishop Stanley in the chair. A clergyman spoke at some length of the evils he feared in the movement, and of the influence of Science in weakening belief in revelation. When he had ended Sedgwick suddenly rose, took a Bible from the table, and holding it up exclaimed in his most vehement manner: 'Who is the greatest unbeliever? Is it not the man who, professing to hold that this book contains the word of God, is afraid to look into the other volume, lest it should contradict it?'"

P. 48. Febr. 4 1836. *Mr. Berkeley.* Miles Joseph Berkeley of Christ's, B.A. 1825, M.A. 1828. Born 1803 in Oundle parish, educated at Rugby, curate of Margate 1829—33, perpetual curate ('33—68) both of Apethorpe and Wood Newton, Northants., and R.D. of Rothwell; vic. of Sibbertoft, near Market Harborough, 1868; F.R.S. 1879; F.L.S. Hon. F.R. Hortic. S. Lond.; Memb. Acad. Sc. of Sweden, &c. A great authority on fungi, algae, &c., and voluminous author. A man of wonderful attainments and of a commanding presence. His portrait was painted for the Linnean Society by Mr. Peake in 1878. Elected Hon. Fell. Chr. 1 Dec. 1883. Died 3 July 1889, aet. 86. Thus the friends of half a century and more, each outlived by six years the Psalmist's uttermost span. Both died in July.

P. 50. July 5 1836. *M.A. of Trin. Coll. Dublin.* In later years, learning with surprise that this degree carried a vote, he went before a justice of the peace and voted by proxy.

P. 59. Oct. 17 1836. *Dined at Henslow's to meet Darwin.* See *Life of Ri. Owen* (Murray, 1894) I 102. Owen invited by Lyell to meet, 29 Oct. 1836, "Mr. Charles Darwin, just returned from South America, where he has laboured for zoologists as well as for hammer-bearers." *ibid.* 103. Owen dines at Murchison's, 5 Nov. 1836, with Darwin and Babbage.

P. 59. Nov. 19 1836. *Mr. Simeon.* "During the past term Simeon's death and funeral have been by far the most exciting events that have passed amongst us. The greatest part of the University—graduates and undergraduates—assembled to do his memory honour; and while the procession moved down the magnificent chapel to the grave, and while its vaulted roof was reverberating the almost supernatural notes of Handel's *Dead March*, I do not think there was one person (including many hundred spectators), who was not for a while almost carried away by a powerful emotion" (Adam Sedgwick to W. D. Conybeare, 5 Dec. 1836 in *Life* I 469). See also A. R. Pennington, *Recollections of persons and events*, Lond. 1895, with Simeon's life as told by W. Carus and by H. C. G. Moule.

P. 60. Jan. 25 1837. *Was taken with the prevalent influenza.* Sedgwick's *Life* I 474, 23 Jan. 1837: "My servants are ill of the influenza, and for the last ten days I myself have been out of sorts." cf. pp. 475—481, 504. Thomas Whytehead's *Remains* (1877) p. 519 after the Mathematical Tripos, 1837: "It is indeed a great mercy that I have been kept hitherto from influenza, which is raging here to a great extent."

P. 60. Febr. 27 1837. *Professor Henslow.* Vicar of Cholsea, Berks, 1832-7; from 1837 to his death, 16 May 1861, Rector of Hitcham. See L. Jenyns, *Memoir of J. S. Henslow*, 1862, pp. 51-55; and (as *L. Blomefield*) *Chapters in my Life* (1889), 103; F. Boase, *Modern English Biography*; *D.N.B.*; above all his parting with Sedgwick (Sedgwick's *Life* II 370-2).

P. 60. March 11 1837. *Cycle of the Ray Club*, 1837:

William Haughton Stokes, fellow of Caius, B.A. 1828, M.A. 1831, Sen. Proctor 1848-9, F.G.S. Rector of Denver, 1852; died there 24 May 1884, aet. 82. Elder brother of Sir George Stokes.

John Wood Haslehurst, an undergraduate. B.A. Tr. 1839. Barrister.

John Arthur Power, fellow of Clare, B.A. 1832, M.A. 1835, M.L. 1838. He married, 27 May 1841, at St. John's Church, Westminster, Helena Margaret, 2nd daughter of the Rev. Dr. Jermyn of Tr. Hall (*Camb. Chron.* 5 June 1841). Went out of residence 13 Apr. 1839. A very successful medical tutor in London. Died at Bedford 9 June 1886, aet. 76.

Joseph Power, B.A., fellow of Clare 1821, M.A. 1824, fellow and tutor of Tr. Hall 1822-44, fellow of Clare again 1844-67. Librarian 1845-64. Vic. of Litlington, March 1856-68. Rect. of Birdbrook 1866-8. Wrote in the London and Cambridge "Philosophical Transactions," and in the Cambridge and Dublin Mathematical Journals. Died 7 June 1868, aet. 69 at his rectory (Boase l.c. and *D.N.B.*)

John Ball, undergraduate of Chr. Coll. Went out of residence 13 Nov. 1839. M.A. Dubl., F.R.S., M.R.I.A., F.L.S., sometime Under-Secretary of State for the Colonies. Author of the 'Alpine Guide,' went to Morocco in 1871 with Sir Joseph Hooker; they published 'A Tour in the Morocco and the Great Atlas' in 1878. Ball died 21 Oct. 1889, aet. 71. He was an Hon. Fellow of Christ's. Observe. Christ's had four Honorary Fellows, two of science, two of letters. The two botanists both died in the latter half of 1889 (cf. Memoir in *Times*, 23 Oct., p. 9).

Mr. Babington.

William Percival Baily, educated at Merchant Taylors'. Fellow of Clare, B.A. 1830, M.A. 1833, B.D. 1853. Senior Proctor 1847-8. Chapl. at Hampton Court 1849-56. Rect. of Gt. Waldingfield 1858; died there 3 Aug. 1871 (*Times*, 7 Aug.).

William Lewes Pugh Garnons, fellow of Sidney, B.A. 1814, M.A. 1817, B.D. 1824. Went out of residence 29 Oct. 1845. F.L.S. Vic. of Ulting, Ess. (*Camb. Chron.* 3 June 1848). Married 4 Dec. 1848, at Berechurch, Mary, only daughter of Mr. Sheffield of Gilson (*ibid.* 16 Dec.); died there 5 March 1863 (*Gent. Mag.* 1 526; *Camb. Chron.* 21 March). His books were sold by Sotheby 2-4 March 1864. His wife Mary died 25 March 1853 (*Gent. Mag.* 1 564). He placed in the hands of the Ray Society a MS. notice of Ray's life and works (*Memorials of John Ray*, 1846, p. viii). He collected insects (Leon. Blomefield *prius* Jenyns, *Chapters in my Life*, Bath 1889, p. 65).

John James Smith, fellow and tutor of Caius, B.A. 1828, M.A. 1831. Candidate for the Librarianship 1845. Senior Proctor 1839-40. He published "Cambridge Portfolio, Lond. 1840-1," 2 vols. 4to; catalogues of Coins in Caius College 1840, of the Caius MSS. 1849. "Pictorial Illustrations of the Catalogue of MSS. in Gonville and Caius College Library at Cambridge 1853," 4to and 8vo. Several papers for the C.A.S. and pamphlets on University politics. See Wilford's "County Families," 1st ed. 592*b*. Of Pennally Abbey, and of Spring Grove, Hampton, Middlesex. Vic. of Loddon 1849. Min. of Laura Chapel, Bath, 1875-9. Married 15 Febr. 1849, at Laugharne, Carmarthenshire, Agnes-Maria, 2nd daughter of Jos. Geo. Mitford Esq. (*Gent. Mag.* 1849, 1 420). He died at Hampton 4 Dec. 1883, aet. 76 (*Camb. Chron.* 8 Dec. p. 4*e*; *Standard*, 12 Dec.).

William Borrer, of Peterhouse, B.A. 1839, M.A. 1842; F.L.S. Went out of residence 30 Jan. 1839. His younger sister is widow of Babington's friend, F. F. Tracy of Christ's, the devoted incumbent of St. Barnabas', Cambridge. The father, also William, F.L.S. 1805, F.R.S. 1835, formed a herbarium, which is at Kew (Boase, *M.E.B.*).

John Saul Howson, of Trin., B.A. 1837, M.A. 1840, D.D. 1862. Dean of Chester, the well-known author. Died 15 Dec. 1885. See Boase, *M.E.B.* and the *D.N.B.*

Sir Geo. Edward Paget, fellow of Caius, B.A. 1831, M.B. 1833, M.L. 1836, M.D. 1838. Regius Prof. 1872. Died 19 Jan. 1892. See Boase l.c. and *D.N.B.*

P. 64. July 20 1837. *W. Christy. Primitiae Florae Sarnicae*, p. iv: "In the summer of 1836 Mr. W. Christy visited the islands, and afterwards published, in the Mag. of Nat. Hist., 2nd series vol. i., the botanical results of his tour." p. xv: "I am indebted to W. Christy, Esq., for his assistance—both in Jersey and Guernsey, and since his return to England—in the preparation of this book."

P. 68. Sept. 9 1837. *L. Jenyns.* Leonard Jenyns, of St. John's, B.A. 1822, M.A. 1825. Of Belmont, Bath, youngest son of George Leon. J. of Bottisham Hall, Cambs, assumes the name of Blomefield, in compliance with a clause in the will of Fra. Blomefield, late of Swaffham, Norf. (*Lond. Gaz.* 6 Oct. 1871); ed. White's *Selborne* 1843, 8vo; *Observations in Nat. Hist.* 1846, 8vo; *Observations in Meteorology* 1858, 8vo; F.L.S. See *Eton Lists* 89a. *Chapters in my Life. With Appendix, containing special notices of particular incidents and persons; also, thoughts on certain subjects, by Leonard Blomefield (late Jenyns). For private circulation. Reprint with additions.* Bath: 1889, cr. 8vo. pp. 133. He was one of the two corresponding members (Babington the other) of the *Berwickshire Naturalists' Club*, which gave in their *History*, 1894, a memoir of him. Licensed to the perpetual curacy of West Dereham (*Camb. Chron.* 18 July 1824); vic. of Swaffham Bulbeck

(*ibid.* 18 Jan. 1828); mar. Tuesday 23 Apr. 1844, at Ampney Crucis, Glouc., Jane, eldest daughter of the Rev. Andr. Daubeney of Eastington (*ibid.* 27 Apr.); of Darlington-place, Bath, mar. 24 June 1862, at Stapleford, Sarah, eldest daughter of the Rev. Rob. Hawthorn, vic. of Stapleford (*Gent. Mag.* 1862, II 222). Presented his library (about 1200 volumes) and his herbarium of British plants to the Bath Lit. and Sci. Institute (*Camb. Chron.* 14 Aug. 1869). Died 1 Sept. 1893.

P. 68. Sept. 17 1837. *Bullock.* George Bullock, of St. John's, B.A. 1834, M.A. 1837, B.D. 1844. Fellow. Presented to the vicarage of Aldworth, Berks, on the resignation of J. T. Austen (*Camb. Chron.* 29 May 1848). Married 10 Sept. 1850 at Southport, Beatrice, 3rd daughter of the late Wm. Bromelow Esq, of Merton Bank, St. Helens (*ibid.* 28 Sept.). Died at Aldworth 16 Oct. 1858, aet. 46 (*Gent. Mag.* 1858, II 645). His wife Beatrice had died 7 Jan. 1856 (*ibid.* 1856, II 213).

P. 69. Dec. 9 1837. *Hendeka.* The minutes of this Club have passed into Dr. Peile's hands from Edm. Thompson, Fellow of Christ's (B.A. 1840, M.A. 1843).

P. 72. June 25 1838. *Primitiae Florae Sarnicae*, p. ix. "Firmly convinced that the geological structure of a country exerts great influence upon vegetation, but being unfortunately quite unacquainted with the geology of crystalline rocks, I applied to my excellent friend, F. C. Lukis, Esq., of Guernsey (who has paid great attention to the structure of his native islands, and indeed to nearly every department of their Natural History and Antiquities*), and he has favoured me with the following sketch of the geology of the Channel Islands." p. xv. "To F. C. Lukis, Esq., I am indebted for a catalogue of the Lichens observed by him in Guernsey."

P. 80. July 14 1839. *The Rev. H. Comyn.* Son of Stephen C. Esq., of London, educated at Westminster, matriculated at Christ Church 11 Dec. 1795, aet. 20, B.A. 23 May 1799, M.A. 23 June 1808, vicar 1821 of Manaccan, Cornwall, and 1837 of Sancreed, where he died 30 July 1851, aet. 76. For his one publication "A Parish Lecture on Regeneration. 1850," see Boase and Courtney, *Bibliotheca Cornubiensis.*

P. 80. July 15 1839. *The Rev. H. Penneck.* Son of Henry P., M.D., born at Penzance 7 Aug. 1800; of Peterhouse, B.A. 1826, M.A. 1830; died April 24 1862 (Boase and Courtney, *ibid.* also the supplement. *N. & Q.* 8 Ser. xii 1 2).

P. 84. Aug. 16 1839. *C. Bird, Rector of Mordiford.* Charles John Bird of Magd. Coll., Cambr., B.A. 1799, M.A. 1802, F.S.A.; died 16 Dec. 1854, at Mordiford, aged 77 (*Gent. Mag.* 1855, I 215).

P. 85. Dec. 7 1839. *Hore.* William Strong Hore of Queens', B.A. 1830, M.A. 1840, F.L.S., F.G.S., son of Major James Ryves Hore, R.M., born Mar. 29 1807 at Stonehouse, Rector of St. Clement's Oxford, 1850—55, vicar of Shebbear, Devon, 1855. Died Febr. 19 1882 at Basingstoke. See *Bibliotheca Cornub.* I and III for his botanical papers.

P. 87. March 7 1840. *Hallam's "Constitutional History."* This book, with its coat of red russia, still speaks the thanks of the Club, signed "J. Francis, President," *i.e.* James F. of Christ's, B.A. 1838, M.A. 1841.

* "It is to be hoped that Mr. Lukis will soon favour the scientific world with a detailed account of the Antiquities, Geology, Conchology, and Crustacea of Guernsey, in all which departments his collections are peculiarly rich."

P. 113. July 13 1842. *The Rev. Wilse Brown*, of Emman. Coll., B.A. 1833, perpetual curate of Eggleston, Durham, 1835-57, rector of Whitstone, 1857, where he died 22 Jan. 1883, aged 72 (*Times*, 27 Jan. 1883).

P. 146. Sept. 6 1848. *Franks.* Sir Augustus Wollaston Franks of Trinity College, B.A. 1849, M.A. 1852, F.S.A., F.G.S., died May 21 1897 (*Daily Chron.* May 22 p. 7. col. 4. *Times* May 24 p. 12 col. 3, and for the provision in his will by which his bequest to the British Museum is contingent on the remission of Sir William Harcourt's death duty, *ibid.* July 19 p. 8 col. 4). Director of the Society of Antiquaries 1873—80, keeper of the department of British and Mediaeval Antiquities and Ethnography at the Brit. Mus. (See *Magazine of Art*, July 1897 p. 175.)

P. 146. Sept. 7 1848. *Mathison.* William Collings Mathison of Trinity College, B.A. 1839, M.A. 1842; fellow, and long tutor, of Trinity, succeeded Mr. Francis Martin as vice-master Oct. 1866, instituted 20 Jan. 1868, rector of Dickleburgh, Norfolk; married July 1 1868, Mary, eldest daughter of Reginald Bray, Esq., of Shere, Surrey (*Cambr. Chr.* July 4); died Oct. 1870 (*ibid.* 15 Oct.). His widow died May 13 1874, at her father's house, aet. 36 (*Times* 15 May).

P. 147. Nov. 10 1848. *Townsend.* Frederick Townsend, of Trin. Coll., Cambridge, B.A. 1850, M.A. 1855, F.L.S. Second and only surviving son of the late Rev. Edward James T. (fellow of Merton College, Oxford, B.A. 1811, M.A. 1814; died April 19 1858, at Oakfield, Leamington, aet. 72) by Mary only daughter of John Hambrough, Esq., of Marchwood, Hants; of Honington Hall, Warwickshire, elected M.P. for co. Warwick (Stratford division), 1886. A contributor to Seemann's *Journal of Botany.*

P. 152. April 8 1850. *Broome.* Christopher Edmund Broome of Trinity Hall, B.A. 1836, M.A. 1839, Esq., married on Friday, April 8 1836, at St. Luke's Chelsea (by the Rev. John Rush, LL.B., father of the bride) to Charlotte Harman, granddaughter of the Rev. Montague Rush, of Heckfield, Hants. (*Cambr. Chron.* 15 Apr.). See the *Christian Remembrancer* xviii 319b.

P. 153. Apr. 27 1850. *Wilson.* John Bracebridge Wilson of St. John's, B.A. 1852, F.L.S., died at Geelong about Oct. 1895 (*Eagle* xix 500).

P. 153. June 5 1850. *Reyner.* George Fearns Reyner of St. John's, B.A. 1839, M.A. 1842, B.D. 1849, D.D. 1868, long bursar of the college in succession to W. H. Bateson; rector of Staplehurst 1876; died Sept. 16 1892 (*Eagle* xvii 403-8).

Ibid. Overton. Thomas Overton of St. John's, B.A. 1828, M.A. 1831, B.D. 1838. Platt fellow. Rector of Black Notley, 1858, died Dec. 14 1893 (*Guardian* 20 Dec. p. 2018*a*, 28 Dec. p. 2055*a*). A man of great reading and a good talker. Once in hall, where several senior wranglers were near him, it came out that Overton alone had read Newton's *Principia* through in the original.

Ibid. Cooper. John Edward Cooper of St. John's, B.A. 1846, M.A. 1849, fellow of the college, succeeded Bishop Colenso as rector of Forncett St. Mary's in 1853, a living which he still holds.

P. 155. July 15 1850. *Coleman.* The Rev. William Higgins Coleman of St. John's, Cambridge, B.A. 1836, M.A. 1839. Published (with Bp. Colenso) *Examples in Arithmetic and Algebra*, Cambr. Hall, 1834; (with Robert Holden Webb, of Christ's College, rector of Essendon) *Flora Hertfordiensis*, Pamplin, 1849. He died Sept. 12 1863, at Burton-on-Trent (*Gent. Mag.*, 1863, II 515*a*. *D.N.B.* Boase *M.E.B.*)

P. 164. Sept. 3 1852. *Wilson.* William Parkinson Wilson, senior wrangler, of St. John's, B.A. 1847, M.A. 1850 (his brother John, of Clare, took the same degrees at the same times). A native of Peterborough, son of the late Mr. Wilson, watchmaker in Bridge Street; educated at the cathedral grammar school, under the Rev. William Cape (*Camb. Chr.* Jan. 30 1847). Professor of mathematics in Queen's College, Belfast, appointed mathematical professor in Melbourne University (*ibid.* Aug. 5 1854). Died suddenly Dec. 11 1874 (*Athenaeum* 20 Febr. 1875); he was in charge of the station at Mornington, for the observation of the transit of Venus, and died two days after the transit, from the rupture of a blood-vessel on the brain (*Camb. Ind. Press* Febr. 27 1875). He published a treatise on dynamics.

P. 166. May 5 1853. *Hiley.* Simeon Hiley, fellow of St. John's, sometime dean, B.A. 1844, M.A. 1847, B.D. 1854. In later years his mind gave way. He died at Field House, Elland, near Halifax, Jan. 4 1871, aged 51 (*Times* Jan. 9). Once, I remember, a mouse ran across the floor of his room. I was for killing it, but he forbad. "They have as good a right to their lives as we have." So Burns (*to a mouse*)

Wee, sleekit, cow'rin', tim'rous beastie,
O what a panic's in thy breastie!
Thou need na start awa sae hasty,
Wi' bickering brattle!
I wad be laith to rin an' chase thee,
Wi' murd'ring pattle!

P. 184. Sept. 18 1856. *The Rev. George Owsley Fenwick*, of St. John's Coll., Cambr., B.A., 1806, M.A. 1809. Vicar of Kempston 1816-33; rector of St. Giles', Blaston 1833-50; died 11 Oct. 1864, at 4 Dowry Square, Clifton, aged 82 years (*Gent. Mag.* 1864, II 662b).

P. 189. June 10, 1858. *Clay.* William Keatinge Clay, diligent and exact as a liturgical scholar and antiquary, wrote histories of his own parish and of three others in the county. A ten-year man of Jes. Coll., B.D. 1834. He died Apr. 26 1867, aet. 69 (*Gent. Mag.* 1867, I p. 825*a*. *D.N.B.* Boase. Works in Crockford). His widow Mary Anne, second daughter of the late Admiral George McKinley, died at Anglesey, Gosport, July 15 1882, aet. 81.

J. E. B. M.

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ille uelut fidis arcana sodalibus olim
credebat libris, neque si male cesserat usquam
decurrens alio neque si bene: quo fit ut omnis
uotiua pateat ueluti descripta tabella
uita senis.

HORAT. *Sat.* II 1 30-34.

each secret of his soul he frankly penn'd,
and made his book his confidential friend;
whate'er befel, did Fortune smile or frown,
thither he flew and there he stamp'd it down:
hence in the old man's prattling page we find
a full-length picture of his life and mind.

FRANCIS HOWES.

BOTANICAL CORRESPONDENCE

BIBLIOGRAPHY

INDEX

"In conclusion, the Compiler can truly say, that he will consider himself fully repaid for his trouble in compiling this little publication, should it have the effect of adding a single individual to the students of Botany—a subject so admirably fitted, by the beauty of the objects on which it treats, to lead the mind of the observer 'through Nature up to Nature's God.'"

C. C. B., aet. 25. Bath, Nov. 1833. Preface to *Flora Bathoniensis.*

BOTANICAL CORRESPONDENCE.

To [Sir] W. J. Hooker.

St. John's College, Cambridge, *Nov. 24th*, 1834.

Dear Sir,—Henslow telling me that he will have an opportunity of sending this to you, free of expense, I immediately answer your letter of Nov. 13th. I accidentally omitted to put *Thesium alpinum* into the packet for you, and having left it at Bath, cannot now send it to you, nor shall be able for some months to come. I trust, therefore, that you will take no notice of it in your third edition, particularly as it is probably a variety of *T. linophyllum*. I trust that you will insert some such paragraph as the following in your book under *Euphorbia Characias:* "Mr. Babington informs me that his relative, the Rev. T. Gisborne, Prebendary of Durham, an ardent botanist, has lived more than forty years in Needwood Forest, and having searched carefully for this plant, both there and at the locality mentioned by Hudson, is fully convinced that its introduction into the 'British Flora' originated in a mistake." I never intended that you should suppose that I put my new locality for *Paeonia* forward as a good indigenous station, but only mentioned it as a curious fact, particularly as it is not the species cultivated in gardens in that part of the country. I am sorry that my careless writing should have given you any trouble, but for *Carex Hedwigii* read *Chara Hedwigii*. This rests upon the authority of Mr. Borrer, who gathered it with me. For *Festuca villosa* read *Festuca hirsuta*, probably, as you say, a variety of *Festuca ovina*. If, as you say, you wish to know more about the *Viola imberbis MSS.*, you must apply, as I think I said before, to my friend, W. A. Leighton, of Shrewsbury, who found it, and would be happy to send you specimens of it. He knows that I have recommended you to apply to him, and will, I doubt not, be happy to give you an opportunity of publishing it in your "British Flora," or "Journal of Botany." I am much obliged to you for sending my packet to Edinburgh, and also for your promise of some plants. Anything will reach me if it is sent through Henslow when he may be receiving anything from you. You have no doubt seen the figure of my *Euphorbia* in Sowerby's last number of the Supplement. Don, I see, has named it there *E. procera*, but I doubt not your name *villosa* is the more correct. It, however, makes it necessary to give it a very careful examination before putting it into print. I hope you will quote my "Bath Flora" for it, on account of its giving the exact localities, and the names of the gentlemen who called my attention to it as a new species. I have this morning (Nov. 25th) received a letter from my friend Leighton, who says

that he has sent a paper to "Loudon's Magazine of Natural History" upon his *Viola imberbis*, giving its resemblances to, and differences from, *V. odorata* and *hirta*, and hopes that you will refer to that when published for any notice which you may wish to take of it in your third edition. Be sure that you give *him* the credit for it, and not me. He also finds by cultivation that *V. lactea* of our Cambridge fens changes into *V. canina*. May not all these Violas which do not differ, except in the form of the leaves or some such variable characters, turn out to be but varieties of one or two species? Henslow and I are inclined to that opinion. I find a *Leontodon* on the Gogmagog Hills (chalk), and on sand hills near Cley, Norfolk, which appears as deserving of specific distinction as *L. palustre*. Its specific character might be: "Outer scales of involucre erect, not reflexed, leaves deeply runcinate glabrous, florets tubular to about three-quarters of their length—dry barren chalk and sand, flowers in June." This plant has a much more elegant appearance than either of the other species, being more slender in all its parts. It had a few plants of *L. Taraxacum* mixed with it at Cley, but could be distinguished from that plant at a distance by its appearance. The *Taraxacum* was variety β of Smith, with a strongly recurved calyx. In my plant the calyx hardly becomes recurved, even in bud, the outer scales are lanceolate. This plant agrees better with *Taraxacum levigatum* of "Botanical Gazette," than with any other plant that I can find described. What does he mean exactly by "involuc. exter. patuli"? It is also very like a specimen of that plant I have from the continent through *Unio Itiner.*, but upon which I cannot now put my hand, having all my things in confusion from moving into new rooms. I will send a specimen by the first opportunity that offers. —Believe me, my dear Sir, yours truly, CHARLES C. BABINGTON.

To [Sir] W. J. HOOKER.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.*, 1835.

My dear Sir,—A note in the last number of your "Companion to the Botanical Magazine" appears to call for some notice from me, and therefore I trouble you with this letter. At p. 158 you mention a new Heath from Ireland, and propose to call it *Mackayii*. Now it singularly happens that, on the very day of the publication of that number, I had described it in a paper then read to the Linnaean Society by the name of *E. biformis*. Mr. W. MacCalla, of Roundstone, took me to its station, which is the centre of a most singular district in Connemara, which I hope to describe in an early number of "Loudon's Magazine," and shewed it to me as *probably* a new species. I have examined it with great care, and compared it with the London herbaria, and finding that it does not agree with any described plant, have named it as above, and trust that the Society will publish it in the next part of their "Transactions." My specific character is: "E. foliis quaternis ovatis ciliatis, floribus

capitatis pedicellatis, sepalis ovatis ciliatis glabris, pedicellis ciliato-tomentosis, corollis oblongo-ovatis, antheris aristatis inclusis stylo exserto." The exact station is on Craigha Moira, Connemara. In the same paper I have proved that the *Crepis tectorum* of our English authors and of English botanists is *C. virens* of Linnaeus, and *C. tectorum* has not yet been found in Britain. I have also added three species of *Polygonum* to our native list: (1) *P. maritimum* (Linn.), gathered by Mr. Borrer near Christchurch; (2) *P. Raii* (new species), the *P. aviculare maritimum* of authors, specific character: "Stem procumbent, herbaceous, stipules 2-partite ovate at length, torn, with few distant unbranched ribs, flowers axillary, fruit smooth, larger than the perianth"; found in Cornwall, Anglesea, near Dublin, and at Barmouth; (3) *P. dumetorum* (Linn.), found at Wimbledon by W. Hankey. There has been some doubt expressed about this plant having been really found there, owing to Mr. Hankey's original specimen having been lost. I have this year obtained the true plant from that place. In your "British Flora," ed. 3, you have not given my station for *Scheuchzeria palustris* at Bomere Pool, near Shrewsbury. I think that the *Hieracium* found by me on Breidden, and referred by you to *alpinum*, ("British Flora") is not that plant, but either a variety of *Pilosella* or a new species. I should like to have a perfect set of Mr. Gardiner's "Mosses," and hope that you will let my name be put down for one. In a note sent to you at about this time last year (with some specimens of *Leontodon levigatus*, *D.C.*), I mentioned that there were several deficiencies in my copy of your "Botanical Miscellany," and that I had not been able to get them from Murray; I have not yet been able to obtain them; what shall I do? I hope that you will make any use of the above you think proper. I noticed this year *Zannichellia*, with anthers of two, three, and four cells on the same plant, in Staffordshire.—Believe me, yours truly, CHARLES C. BABINGTON.

My friend, R. M. Lingwood, Esq., of Christ's College, Cambridge, wishes his name to be put down for one of the *best* copies of Mr. Gardiner's "Mosses." His copy may be sent to me. I hope to be able to send your son some insects before long; will you tell me who is your agent in London now? If you have a specimen to spare of the new *Alyssum* I should be much obliged for one. What a nice discovery that is of Dr. Graham's, of *Ononis reclinata*.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Oct.* 18, 1837.

My dear Sir,—I have recently received a letter from our friend Christy, in which he says you wish to have the new Jersey plants to introduce in a new edition of the "British Flora." I have great pleasure in sending to you all the information that I can suppose will be of use to you, and hope that you will publish any part of it

as you see fit in the "British Flora." I intend to publish a little volume, under the name of "Primitiae Florae Sarnicae," to include a catalogue with localities of all the plants, above 700, which have been found in the Channel Islands. As the value of this list will not depend on a few new species, but upon the *total* list, I can have no reason for desiring to prevent you from publishing the new plants. I was in hopes to have had the pleasure of seeing you at Liverpool, when I should have been glad to tell you all about the Channel Islands. You may expect to receive a small packet from me, in a month or two, through Hunneman. If you have any duplicates of European plants they would be very acceptable, as I am very desirous of obtaining continental species. You will be sorry to learn that Mr. Borrer has injured his knee, and will not be able to walk about for some months, if he should not be permanently lame. I send this in haste in hopes that it may be in time for your new edition.—Believe me, yours truly, CHARLES C. BABINGTON.

To Sir W. J. HOOKER.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 1, 1837.

My dear Sir,—I now send you the plants from the Channel Islands which I mentioned in my letter of about a month since. I hope that you have found some part of the information then communicated of use to you in your 4th edition of the "British Flora." If I can give you any further information it will give me great pleasure, and you have only to let me know what will be acceptable and I will, if possible, send it to you immediately. I send this through the Botanical Society of Edinburgh. If you have any duplicates of European plants they will be very acceptable, and of great use. I am desirous of making my European herbarium as full as I can. Specimens of newly-discovered native species will also be very acceptable.—Believe me, dear Sir, yours most truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

18, HAVILAND STREET, GUERNSEY, *July* 13, 1838.

Dear Sir,—As I suppose that you have now returned from your tour into Wales, I send you a few lines to inform you of my progress in these islands. I am just returned from a visit to Alderney, in which small island I spent a week, and have formed a list consisting of 330 plants, natives of it. *Sinapis incana* is plentiful there upon sandy ground, and also *Brassica Cheiranthus*, *Arthrolobium ebracteatum*, and *Lotus hispidus*. *Ononis reclinata* is plentiful in one part of the island (this does not grow in Jersey or Guernsey); also *Lotus angustissimus*, and a very short spined form of *Medicago denticulata*. I have gathered there a *Thesium*, probably *pratense*, in some plenty, and an interesting form of *Verbascum nigrum*, with

the leaves much more woolly, and the flowers smaller. Alderney is not more than five or six miles in length, and from one-and-a-half to two in width. It is a lofty table land, with cliffs over the sea in all parts, except three or four bays, which have extensive sands. It appears to me to be peculiarly rich in interesting plants, far more so in proportion to its size than either of the other islands, and I think that I have done well to obtain so many plants in it in a week. I am going soon to Sark, which, I am informed, is likely to supply me with a numerous list of plants. As this latter visit depends somewhat upon the leisure of Mr. Lukis (a resident naturalist here, of whom you may have heard as having studied Lichens and Fuci), I cannot tell how soon I may return to England. Mr. Lukis has not paid much attention to botany of later years, and has lost (by some person not returning it to him) his list of Lichens and Fuci for Guernsey. He now is busily employed in excavating and examining the numerous druidical remains with which these islands abound. He has a very valuable collection of druidical vases, cells, etc. Have you seen Hooker's 4th edition? He has given Christy credit for conjoint work with me. Nothing can be more incorrect. He was out with me on three days during seven weeks, on two of which he was under my pilotage. When you are writing to Hooker you will perhaps incidentally mention that he had next to nothing to do with my work. If any person was to be mentioned, it ought to have been Lingwood, who was with me in almost every walk during the whole time. Why has not William come here? I have been expecting him, and a letter from you also ever since my arrival here. I have sent off to-day a second packet for Sowerby, containing *Sinapis incana*, *S. reclinata*, *Arthrolobium ebracteatum*, *Thesium pratense*, (?) *Lotus hispidus*, and *angustissimus*, and as it will take him a very short time, I have advised him to make drawings of all of them, and we can publish such as have not yet appeared. One of the *Lotuses* is published, but if my memory is correct, it is a bad figure. Kindest remembrances to your family, and believe me to be yours most truly, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Aug.* 13, 1838.

My dear Sir,—In "Loudon's Magazine of Natural History," Vol. IV., p. 28, will be found a paper, by the Rev. W. T. Bree, upon the Irish station of *Iris tuberosa*, and a good woodcut of the plant (marked figure 9, p. 29). He says that Mr. Drummond, the curator of the Botanic Garden at Cork, shewed him "an old hedge bank at no great distance from the town," which was full of it, and that although then not in flower, yet by digging "as it were at random," he obtained "a good handful of the roots," which Mr. Bree has cultivated ever since. Mr. Drummond said that it flowered well, and was found in another spot (as Mr. Bree thinks) near an old ruin

in that neighbourhood. This communication is dated "Allesby Rectory, Nov. 13, 1830." At p. 430 of that volume Mr. Edwin Lees, of Worcester, expresses doubt as to its right to denizenship in Ireland, and at p. 197, Vol. v., W. Bree concurs in that doubt, and says that all he contends for is that it has as strong claims to be considered as a native of Ireland as many other plants admitted into our indigenous list. He is of opinion that if an introduction, it is not one of recent date. In the same magazine, Vol. v., p. 200, a notice is introduced by the Editor (J. D.) [which means John Denson], as follows: "Mr. Arthur Biggs, curator of the Botanic Garden at Cambridge, received about four years ago (this was published March, 1832) tubers of a plant from a brother of Mr. Goode's, St. John's Street, Cambridge, which were obtained in Cornwall, and near the sea; and Mr. Biggs was informed that these tubers were of a plant that is plentiful and wild in that neighbourhood, but where nothing is known of its name. These tubers, on being planted, developed plants of *Iris tuberosa*, past all question; for although they have not yet produced flowers, *Iris tuberosa* is, I believe, the only species of plant, out of several thousands which our gardens contain, that possesses four-edged leaves, and this character is duly obvious in the leaves of the plants in question. The address of Mr. Goode's brother is Mr. E. Bell, 70, Portland Square, Plymouth, by a post-paid letter to whom more definite particulars may be learned." This is all I can find in Loudon. Look at Mackay's "Flora Hibern.," p. 274. I have seen Biggs, and he says that the roots have flowered in the Botanic Garden, and are certainly *Iris tuberosa*. I am informed that Mr. Bell does not now live at Plymouth. My *Thesium pratense* from Alderney is only a variety of *Thesium linophyllum*, and not worthy of publication. The characters of these plants, drawn from the incurved calyx of the fruit, do not appear to be permanent.—Yours truly, CHARLES C. BABINGTON.

To Sir W. J. HOOKER.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 3, 1838.

My dear Sir,—I have the pleasure of sending to you a few specimens of the plants found by me in the Channel Islands during the late summer, and hope that they will be acceptable to you. Will you be so good as to inform me on what authority you have referred my *Polygonum Raii* to *P. Roberti* (Lois.)? The description of that author is not sufficient to identify the plant, and, indeed, would rather refer his plant to *P. aviculare*. Have you specimens from him? for I do not see by what other authority his plant can be determined. My "Primitiae Florae Sarnicae" is advancing, and, I hope, will appear in the spring. It will form a tract of about 100 pages, and contain about 760 species, many of them full of interest to the English botanist. I was most unfortunate in not seeing you when at Glasgow.—Believe me, yours truly, CHARLES C. BABINGTON.

To the same.

St. John's College, Cambridge, *March* 18, 1839.

My dear Sir,—As I am upon the point of going to press with my "Primitiae Florae Sarnicae" I am very desirous of learning from you on what authority you have referred *P. Raii* to *Polygonum Roberti* (Lois.). I have been unable to come to any certainty on the subject, and know no more about his plant than I have mentioned in the "Supplement to English Botany." *P. Roberti* appears to be a plant that is quite unknown to all botanists except its author, and he has given so very bad a description as to make it quite impossible to determine the plant without authentic specimens. Have you got authentic specimens? and if so, are you *quite* certain that they are *P. Raii?* You will, I hope, excuse my pestering you with questions, as it must be the wish of all botanists to make our nomenclature as perfect as possible, and also to determine any doubtful plant. I hope you will soon favour me with a few lines, and believe me to be,—Yours most truly, Charles C. Babington.

To William Borrer, Esq.

St. John's College, Cambridge, *June* 3, 1839.

My dear Sir,—You are quite mistaken in supposing that I "care nothing about Lichens." It is quite true that I *know* nothing about them, but it is not my intention to remain in such a state of ignorance, and hope soon to be able to give a good deal of attention to them. Allow me to express to you my thanks for your kindness in remembering me in the distribution of your Lichenographia. I was much surprised when I learned that Mr. Turner had taken upon himself to print additional sheets, and distribute the book without informing you of his intentions. It is, I think, right that it should be so far published, for all books that are quoted ought to be accessible, and this was in that situation. I shall deliver the copy for my cousin, Churchill Babington, to him as soon as I have an opportunity, and have written to him to inform him of your kindness in sending him a copy. I can assure you that he has great respect for you, and is very desirous of obtaining your acquaintance. Tell William that he cannot be more grieved than I am that the Iceland party has failed. Ball and I did all we could to keep it on its legs, but it had latterly got such an inveterate trick of stumbling that we could not prevent its fall. My views are now turned towards Ireland and Ben Bulben, etc., but I purpose going to Bath for about ten days as soon as I can get the "Primitiae" out. This, I hope, will take place next week. I shall have a copy of it, and also of a supplement to the "Flora Bathoniensis" for you, and will send them both together. I have no doubt that you will succeed well in Cornwall, and wish that I could go with you. I expect that you will get some of the Sarnian things there. Do not fail to send Sowerby specimens of the *Barbarea*

stricta to draw. Look at *Scrophularia aquatica;* you will find *S. Balbisii* (Koch Syn. 515) confounded with it, and equally common. Have you found *Isnardia* on Henfield Common yet? What eyes you must have not to have seen it! I hope that the "Primitiae" will please you. I think that the part following that which you saw in MS. is of quite equal interest with that portion. I wish that you would write a review of it for the "Annals" as soon as it is out, as a favourable notice (if you can give one) would much promote the sale. If you go through Bath on your way to Cornwall send to 8, Hanover Street, and ask if I am there. With the kindest remembrances to all your party, believe me,—Yours most truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *June* 12, 1839.

My dear Sir,—I have now the pleasure of sending to you a copy of my "Primitiae" and also the supplement to my "Flora Bathoniensis." The former I think that you will like; at least I hope so, for I have taken great care in its preparation. Will you notice it in the "Annals"? I shall esteem your doing so a great favour. . . . With the kindest remembrances to Mrs. Borrer and all your family.—Believe me to be, yours most truly, CHARLES C. BABINGTON.

P.S.—*Bromus rubens* is a synonym of *B. rigidus*, to which I have referred my Sark plant. I am sorry that I cannot agree with you and Woods in considering it more than a variety of *B. diandrus.* I think that *Scrophularia Balbisii* is distinct from *aquatica*, and hope to be able to demonstrate it to you. The crenate *not* serrate leaves, and the entire *not* bilobed scale or abortive stamen in the corolla, are, I think, quite enough to distinguish them. It is very probable that *Barbarea stricta* may be only a form of *B. vulgaris.* It has no character of value, and could only be separated if the characters which it has, should be found to be permanent. I do not think that my cousin could go to see you (than which nothing would please him more) until next Christmas, for he is reading hard, being about to enter the University with the intention of trying to distinguish himself. Indeed, I cannot recommend him to spend his time in botany, even with you, until then, when he will want a week's holiday, and I will persuade his father and mother to let him go to Henfield. I have been thinking of your kind invitation to join you in Cornwall, and although I had laid all my plans for Ireland, I have determined to meet you at Salisbury on the 8th of July, as you propose, and Ireland must take care of itself. How does the *Erica Mackaiana* succeed? I want very much to get it published in the Supplement *E.B.*, and intended to have brought specimens from Ireland, fresh for that purpose.—Yours, C. C. B.

Send me word to Bath how I am to find you at Salisbury.

To the same.

MORDIFORD, HEREFORD, *Aug.* 14, 1839.

My dear Sir,—When parting from you at Torquay you expressed a wish that I should send you an account of my proceedings in South Wales, I therefore now give myself the pleasure of writing a few lines to you. On my arrival at Exeter I found the Sidmouth coach full, and had therefore to go outside to that place, but fortunately escaped a wetting through the goodness of my mackintosh. I found the *Schistostega* at Sidmouth, both to the east and west of the town, but could not find it in North Devon, nor South Wales, nor Herefordshire. *Verbascum blattaria* escaped my notice, even if it is now to be found on Salcombe Hill. I looked about me at Barnstaple, Ilfracombe, and Coombe Martin (also near Taunton), but found nothing peculiar. The purple-stemmed *Filix-femina** and scaly *F.-mas*† are both frequent in North Devon, and also near Merthyr Tydfil. The latter district is peculiarly rich in ferns and *Hieracia*. Individuals and varieties I mean, although the species are rather numerous. From Ilfracombe I crossed over to Swansea, and visited Penard Castle, where I saw the *Draba aizoïdes* in plenty, and gathered, on the slopes of the sand hill between it and the sea, a moderate quantity of *Sinapis Cheiranthus*. It was much beaten to pieces by the late stormy weather, and therefore good specimens were rare, but roots were moderately plentiful. The district in which it occurs is a confined one, as I hunted for it widely, but only found it upon the slopes of a single hilly range of sand, growing amongst *Arundo arenaria*, and in single scattered individuals. Since my arrival at this place, Lingwood's home, I have seen the true *Arctium Lappa*, totally without the web, and with the involucral scales ciliated with very short rigid setae, and also concolorous. I never saw the plant before, and am now convinced that we have two species of *Arctium* in England. In *Arctium bardana* the scales of the involucrum, in addition to their web, become much tinged with purple as they approach the flowers, and the tips of the mucrones are scarcely hooked. They are never ciliated. The inflorescence also of *A. Lappa* is more corymbose, and that of *bardana* is a raceme. Lingwood desires to be remembered. I trust that you will tell Mrs. Borrer that I endeavoured to take all the care of you that I could.—Believe me, yours truly, CHARLES C. BABINGTON.

Oxalis corniculata occurs in gardens as a weed near Sidmouth, and at Sidford.

To Sir W. J. HOOKER.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Jan.* 18, 1840.

My dear Sir,—Upon my return home the day before yesterday I received your letter of the 10th inst., with its enclosed specimen of *Polygonum Roberti* (Lois.), for which permit me to express to you

* See *Manual*—"Athyrium." † See *Manual*—"Lastrea."

my most sincere thanks. The specimen is undoubtedly exactly the same as my *P. Raii*, and therefore I suppose we must adopt Loiseleur's name, at which I am grieved, for Ray certainly had a far better claim to the plant than M. Robert, having distinguished it 150 years since. I have again referred to Loiseleur's character, for he gives no description, and I would defy any person to determine what it was he intended by his plant without authentic specimens. I have seldom seen any work which is less deserving of praise than his "Flora Gallica," for I have scarcely ever found the real character of a plant pointed out by him. I send you a specimen of *Echinospermum Lappula*, gathered in August last on the Suffolk coast between Southwold and Walberswick, by my friend, the Rev. Adolphus Holmes, F.L.S. He is of opinion, and so am I (from my remembrance of the place when at Southwold a few years since), that it is truly an aboriginal native in that locality. I at first suspected the probability of ballast having introduced it, but from recent enquiries, am of opinion that that is not the case.—Pray believe me, my dear Sir, very faithfully yours, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Feb.* 27, 1841.

My dear Sir,—I have just received from Mr. T. Edmondston two specimens of the *Cynosurus echinatus* from Shetland, one of them for you. In asking for one for myself, I also said that if he could spare two, I should be glad of one for you. He states that all the specimens (few in all) were as small as that sent, except one nearly two feet high. In a former letter he stated that no ships are ever known to bring ballast, and to throw it upon Bressa Isle, and that the plants grew in the interior of the island. Bressa is a small island exactly opposite to the town of Lerwick. Mr. Edmondston is a young botanist, the son of a landed proprietor in Unst, where he resides. I trust that you have received two notes, one containing seeds of *Cliococca tenuifolia**, and the other an account of *Scirpus parvulus*. I have lately had reason to think that we have two plants in England confounded under the name of *Melampyrum arvense*, but as I only possess single specimens of them, and have never seen either alive, I am still in some doubt upon the subject. The true *M. arvense* (Smith) from Costessy, Norfolk, has the "bracteas lanceolate, pinnatifid, with setaceous segments, and the teeth of the calyx with slender setaceous teeth from an ovate base, the other *M.* (Sm.) has bracteas ovate, attenuated, pinnatifid, with subulate segments, and the teeth of the calyx lanceolate attenuated; the corolla also of nearly double the size." I wish that you would look at your specimens, and see what they say. The new (?) plant is from Bromfield, to whom I have written on the subject, and, as he has never seen the true plant, he cannot see the difference, especially as the

* See C.C.B. in (Lam.) Trans. Linn. Soc. XIX (1845) 33, 34. Now *Linum selaginoides*.

"English Botany" figure is bad, representing neither one plant nor the other. It is an early plate, which will account for carelessness about the form, etc., of such parts as the teeth of the calyx. I think we must adopt the genus *Trixago* of Link for the *Bartsia viscosa*, if we follow Smith's characters drawn from the seed, as it appears to me that we ought to do.—Believe me, dear Sir, yours truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *June* 3, 1841.

Dear Balfour,—I am truly glad to find that you are now all safe in the Professorial Chair. You ask after my "Flora," but I grieve to say that it cannot be ready for your first Glasgow course, although I trust that it may be for the second. I am not so sorry for this delay as might be expected, as I shall, I hope, make it so much the better. The further I go, the more necessity I see for differing from our English books in nearly everything. I have just finished a paper upon *Viola*, which I shall produce at Plymouth, if I go there, and then send to the "Annals." I find that the direction of the cells of the anther, either parallel or diverging, differs in several of our species, and have drawn up characters from these, combined with the antherine spurs, stipules, and stems. When do you start for the outer Hebrides, and what is likely to be the expense of the trip? as I should like very much to join you, but fear the expense after my tour in Kerry. I do not much fancy the Plymouth meeting without any of our usual clan, or at most but very few. I hope to hear from you immediately upon the above question, as I leave this place on Monday or Tuesday, and after a week or so at Bath (8, Hanover Street), go to Cork, and thence to Tralee or Dingle. Now for a secret, a real one that I wish you to keep closely. Don is, I am sorry to say, very ill with cancer, and so will, I fear, be soon obliged to give up the King's College Chair in London. I have an idea of putting up for it when that takes place, and I should like to know what you think of it, and if I could get good testimonials from Edinburgh if I should want them. I trust Don will be able to go on for some time, over another summer perhaps; but suppose that there is no doubt of his not being able to hold out longer, even if so long. I hope Campbell has received the recommendation of two new members, Messrs. Coleman and Newbould, for the Botanical Society, which I sent lately. With kind remembrances to my numerous Edinburgh friends, believe me, most truly yours, CHARLES C. BABINGTON.

To the same.

KILLARNEY, *July* 7, 1841.

Dear Balfour,—I write a few lines to say that I have given up the Plymouth meeting, and therefore hope to be able to join your

and Graham's party to the Hebrides next month. I wish that you would write me a letter to give the particulars of the proposed trip, such as time of starting, duration, plan, etc. A letter will find me if directed here so as to arrive within the next fortnight, as although I intend to visit Dingle, Cahirciveen, Kenmare, etc., still this will be my head-quarters, and the last point at which I shall touch before leaving Kerry. I have only been here for one-and-a-half days, and so have done but little, although I am inclined to doubt about some of Mackay's varieties of Saxifrage from what I have already seen. I would dry a good set of them for the Society, but they take up so much time and paper. *Euphorbia hiberna* is in great plenty here, but rather past. The *Trichomanes* has been nearly extirpated by a rascal of a gardener. I wish that I had him to duck in the lake, I would keep him under until he was just not dead, and then let him recover, and give him another dose. Do you think that that treatment would cure him, and teach him never to do so any more? —Believe me, yours most truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Nov.* 12, 1841.

My dear Sir,—From what you said in your letter I have again examined the *Epilobium angustifolium*, but am unable to see any real distinction between the two forms. There is certainly a difference in the form of the buds, but then that appears to me not to be constant. The stigma may perhaps be said to differ slightly in shape, but then, if my idea is correct, that would probably result from the *abortive* state of the fruit. The leaves I think variable in shape. The petals do appear to differ. I presume that Leighton is not prepared to separate the two plants, or we should have heard more about it before this time. Thank you for the specimens of *Herniaria glabra*, which appear to belong to my variety β, with slightly ciliated leaves. Are they from Miss Bell? and what is their locality? All I know of her is that she used to be a botanical correspondent of Henslow's, for the exchange of specimens, and appeared, I think, to have a peculiarly rich British herbarium. I had seen Arnott's account of *Fumaria micrantha* in the Icones, and was not at all surprised at it. He and I have each of us the same means of knowing Lagasca's plant, as the short account in *D. C. Synt.* is all that is known about it, and I have in addition the negative authority of Dr. Klotzsch, whom even Arnott allows to be an excellent botanist. He told me that he was "quite certain" that it was not *F. micrantha*. I have been long intending to write to him upon the subject, but Berlin is a distant place. I will do so immediately. I know nothing about Sowerby. Trusting that you are now quite well,—Believe me, yours truly, CHARLES C. BABINGTON.

I have just discovered the flaps of your letter, and see that the *Herniaria* is from Ruan Minor. I consider it as *H. glabra*. It was Lingwood who found the *Tragopogon pratensis* at Framfield. I did not see the station, and have only one specimen of it. If I can find a Haddiscoe *Ballota* remaining you shall have it. I had no opportunity of drying more than two or three, and fear that they are all gone. I enclose a *stick* of *Trifolium strictum*, and can only say that the specimen preserved for myself is hardly any better. They were dried up when Mr. Newbould found them, and as he did not know the plant, it is possible that he may have overlooked better specimens.

To Professor J. H. Balfour, M.D.

St. John's College, Cambridge, *Feb.* 8, 1842.

Dear Balfour,—I thought that I had long since informed you that I had given up all intention of being a candidate at King's College. They did not, or could not, come in to my terms, and so I retired; and Watson came forward (for he told me that he would not if I did), and I have no doubt will get it. I think that the College have some reason to thank me for this, as there can be no doubt that he is far more likely to become a popular lecturer than I was, as he will, I think, take just as much pains, and has several advantages that I do not possess. I am much pleased to hear that you have so good a class, and I hope that you will not be puffed up with pride and dignity after such splendid puffs in the papers, for be it known to you that I am acquainted with the mode in which such things are done, so you had better mind what you are about. There are but few *Unio Itineraria* specimens in the French herbarium, and I do not now care so much about being paid for duplicates, as I find that I am even now within my income after paying for it. I must go through the whole before I can distribute any, as the arrangement has become considerably confused. That is a long job, and I have but little time for doing it, as I work part of each day at the "Flora." I have been examining the Barvas *Eleocharis palustris* with considerable care, and am of opinion that it is *E. uniglumis* (Link), but not a species, and scarcely even a variety. You see in the last "Phytologist" that Watson is determined that I should have all the credit, or rather discredit, of the changes in nomenclature in the catalogue. He tells me that he has recommended the London Society to use it for their "Correspondence," and so it is probable that it will sell well. No review yet of the "Transactions," nor advertisement of them or the "Catalogue." I wish that you would send me your ideas about the paper I sent upon *Dryas*. Have you looked at your own specimens with it?—Believe me, very truly yours, Charles C. Babington.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Feb.* 10, 1842.

My dear Sir,—I am glad to learn that it is probable that we shall meet on Tuesday evening. I shall dine at the club, if I reach town in time, by Mr. Forster's invitation, and shall probably see you then. There is a strong opposition to Kippist, but I hope that he will be successful, as it would be too bad to supersede him after such long service, and such good qualifications. The *Brassica orientalis* I consider to have been introduced with flax seed, as I only saw it in one patch of flax, and there in small quantity. The *Erysimum virgatum* is *much more* of "a native" than the *Mimulus*, in my opinion. It is quite as good a native as the *E. cheiranthoïdes*, under which name it has passed at Bath ("Flora Bath." p. 5), growing upon cultivated ground, but of uncertain station, just as I find *E. cheiranthoïdes* in the fens here. I am told that the Killiecrankie station for *Orobus niger* is a good one. I was unable to stop in that beautiful glen. I have just re-examined the *Aira* from Langa with great care. We found two plants there, one of which we considered as *A. alpina*, and the other as an Alpine form of *A. caespitosa*. It is probable that I may have sent to you the former under the name of the latter, as I must own myself quite unable to point out any specific character by which *alpina* may certainly be distinguished from *caespitosa*. Can you point out a constant one? I shall have a copy of our tract, "On the vegetation of the outer Hebrides," for you when we meet in London. It commences the third part of the "Transactions of the Botanical Society of Edinburgh." I hope that you will not think it very impertinent in me to ask you to allow me to propose you as a non-resident member of that rising Society. Non-resident members pay no annual subscription, but, in place of it, one donation of £3 3*s*. I have refrained from asking you to join until the Society had made for itself a name, and shewn itself worthy of the support of such persons as you. Several of the leading members have expressed a wish that I would ask you, but I have always declined doing so, and now if I should have the success (which I confidently expect) of obtaining your permission, they will be the more pleased by not expecting it. I have no specimen of *Calamagrostis stricta*, and therefore cannot compare *C. lapponica* with it. I have not time now to look to the *E. B.* figure of *Epilobium*, and make the comparison with care, but will do so soon. I shall be very glad to receive the *Astrantia*, and I think that there were one or two other things that you were so good as to propose to add to my collection. I have not seen Leefe lately, but make no doubt that he is greatly pleased by having heard from you. I trust that Mrs. Borrer and your family are well, and hope that you will remember me to them, and believe me, most truly yours, CHARLES C. BABINGTON.

I hope that your son William is coming up to vote for Kippist; I fear that votes will be wanted.

[*Note to above Letter.*—Babington's *Aira caespitosa*, variety Langa. Examine this thoroughly; the flowers look more like those of *A. alpina*, although the stalk of the raised floret is hairy. *Calamagrostis lapponica:* compare this carefully with the Forfar *C. stricta*, and both with Wahl. My Irish specimens differ more in appearance from each other. I have some of them from a specimen of *C. stricta* given me by the elder G. Don. I have *C. stricta* from Arnott looking different from both, but it is in a bad state. *Brassica orientalis*, Roberts, Lam.; *Erysimum virgatum*, *Orobus niger*, *Urtica dioica*, no label.—W. B.]

To the same.

St. John's College, Cambridge, *May* 21, 1842.

My dear Sir,—I am sorry to hear that the death of Mr. C. E. Sowerby is not unlikely to cause a discontinuance of the Supplement to "English Botany," and therefore write to you to enquire if you do not think that something might be done to cause its continuance. I should be much grieved to find that it is really to stop. The reason, I am told, is, that the numbers forming part of the third volume have not paid their expenses. Now I suspect that if we could learn how many additional subscribers are wanting to cover the expense, then we might easily obtain that additional number. It would certainly be advisable that it should be in the hands of James Sowerby in future, and that he would come to some engagement to publish the numbers at some regular interval, by binding himself to you, or some one else who would take sufficient interest in the work, to ensure its continuance. Do take the matter in hand, and press it upon him strongly. He has now many drawings of flowering plants in his hands, many of which have never been figured, and numerous others (to say nothing of Cryptogameae) remain to be drawn. I hope to hear from you on the subject, and that an arrangement may be soon made. I trust that all your family are now restored to health; be pleased to remember me to them, and believe me to be, very sincerely yours, Charles C. Babington.

To the same.

St. John's College, Cambridge, *June* 20, 1842.

My dear Sir,—Many thanks for the *Barbarea stricta*, which I now feel satisfied is a true species. You have been most successful in this genus; adding two species, for I consider the *B. arcuata* as an equally good one. The *B. stricta* is well figured by Reichenbach in his *Icones*, f.4355, and yours is certainly the plant of Koch, and also of Wimmer and Grabowski, "Flora Silesiaca" II., 277. I have been unable to ascertain the date of "Besser eu. pl. Volk," in which Andrzej gave the name of *stricta*, but fear that it is older than Fries, Nov. ed. 2. As to the *Stipa* upon Rumbold's Moor, all I can say

is that if Gibson has found it, he is most fortunate. Why did you not ask him about it? I have corresponded with him for some time, and been much pleased with his observations. The *Carex* I look upon as distinct, but it is Gibson himself who proposed the name of *Leylandi*, and wants me or Leighton to describe it. I wish that he would do it himself, and then we should adopt the name, but I must say that I do not much like it, as I believe that Leyland has had nothing to do with it. What is *Lysimachia stricta* which you mention as growing near York? I have the true *Eriophorum gracile* from Croft, and so have you, I think. It is probable that you did not get to the right place. Nothing can be done about the Supplement until Sowerby will inform us of the amount of deficiency upon each number. I propose that subscribers should take their copies direct from him if they can, and that an endeavour should be made to get new ones. I shall have it in view in Scotland. I start on Wednesday for Manchester, to the Meeting of the British Association, and shall probably go north after it is over. The plan is that Professor Balfour (of Glasgow) and I should go to Orkney and Shetland in August; but what my movements will be during July I am now unable to say with certainty. I wish greatly that you would look over your *Willows*, and give me your opinion as to what I had better do with them, as I must confess myself quite unable to form any opinion for myself. It would be easy for you to put down upon paper such notes upon the species as would relieve me from a great and nearly insurmountable difficulty. I hope that you will not think me very troublesome in asking this, as I well know that you have only to set to work and the thing is done with ease. I am just returned from a week with Holmes in Suffolk. We went to Aldeburgh and Orford, and hunted Ray's station at the latter for *Medicago muricata*, which I am now convinced is totally lost. There is no *Medicago* whatever on the place indicated; indeed the banks are now so well kept that none are likely to grow upon them. We found plenty of *M. minima* on the Castle Hill. *Spartina stricta* is in very great abundance on the marshes near Orford Ness. *Glyceria Borreri* also grows there. *Lathyrus* (*Pisum*) *maritimus* is plentiful on the shingle bank next to the sea, all the way from Aldeburgh to Orford Ness.—Believe me, dear Sir, very truly yours, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

EDINBURGH, *July* 21, 1842.

Dear Balfour,—I have been greatly disappointed at finding that the meeting, upon the promise of which I had hurried here, took place last week, as I wished greatly to have remained at Berwick. I have taken lodgings here (as head-quarters) for a fortnight, but will go to Glasgow in the beginning of the week for a day or so. What time will suit you best? I am far from pleased with the mess that has been made of the "Botanical Society Transactions," but it

is just what I had been expecting it must come to if they were not pushed well. It seems we are to have the papers for the "Annals," that is one good thing. We must not, however, bind ourselves to publish whatever they please to send. You say, "Remain at Braemar till Saturday, the 13th," and I suppose do not know that the Orkney packets sail from here at 6 a.m. on Fridays. I have half a mind to go with you to Braemar. I am glad to hear that your trip has turned out well. I have been successful in Teesdale, and also near Newcastle, finding *Potamogeton longifolius* and *Epilobium virgatum*, in addition to the usual plants at the former, and *Carex irrigua* at the latter. Johnston hopes that you will find some time to visit Berwick, as he desires much to see you.—Believe me, yours truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

CASTLETON, BRAEMAR, *Aug.* 11, 1842.

My dear Sir,—I enclose a few seeds of *Rumex aquaticus*, which I gathered in Clova a few days since, and hope that you will succeed in raising plants from them. The plant delights in a very wet place, often almost in the water. We spent three days in Clova, and gathered *Sonchus alpinus*, *Astragalus alpinus*, *Potentilla alpestris*, *Cerastium alpinum*, *Spergula saginoïdes* (Linn.), *Alopecurus alpinus*, *Phleum alpinum*, *Juncus castaneus*, and *trifidus*. And on our way over the hills to this place we saw an abundance of the foliage of *Carex rupestris*, but very little flower. Yesterday we visited the summit of Ben Aven, and found *Luzula arcuata* there; also upon a lower hill called Craigindal we found a second native locality for *Astragalus alpinus* and *Carex rupestris*, as well as a surprising number of fine things. There is snow near to the summits of several of the mountains in this neighbourhood. I was upon it on Ben Aven, and also on one of the hills by the Whitewater of Clova. We go to Aberdeen to-morrow morning, and take the steamer for Orkney, where we do not expect to find much, if anything, of rarity, neither do we in Shetland. I am very much pleased with this place, and suspect from our accidental success upon one hill, that much must remain to be done in the neighbourhood; but even if we could remain we should be prevented from going upon the hills after to-day, on account of the game.—Believe me, dear Sir, most truly yours, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 16, 1842.

My dear Sir,—I was greatly pleased when I saw your hand upon the direction of the letter received this morning, as I had been for some time rather hoping than expecting to receive one

from you. I thought that I had informed you that accidental causes had prevented us from going to "Ultima Thule," even after we had gone to Aberdeen for the purpose of going on board of the steam vessel. We therefore went to Ross-shire, intending, if the country looked promising, to endeavour to penetrate into the interior; as however it did not, we contented ourselves with a careful (but not profitable) examination of Ben Wyvis. We then visited Oban, Iona, Staffa, Inverness, and so back to Glasgow. Have you seen Parnell's book on the grasses? it is well worth having. I have not yet been able to finish selecting the specimens required for my own herbarium from the last summer's collections, and so have not made up a set for you, but shall do so very shortly. I have several plants to send, with which I suspect that you are unacquainted. It appears to me that Hooker has not done wisely in excluding *Impatiens fulva* from our list, it certainly ought to appear as a naturalized species. I must beg specimens of the following plants that you have found this year: *Eriophorum gracile* (Woods), *Setaria glauca*, *Panicum sanguinale**, and *Crus galli*†, *Linaria simplex*, and *Fumaria calycina*. As to the *Statice tatarica* I know nothing, but think that your conjecture is not at all improbable. I have written by to-day's post to Mr. Notcutt about it. Do you know who he is? I cannot believe that the true *S. tatarica* is a native of Britain. I have now a little to say about *Myosotis*. I am inclined to consider *M. rupicola* (Sm.) as *M. suaveolens* (Kit.), and not *M. alpestris* (Schm.). I have specimens of the latter from Bohemia, and it has blunt lower leaves like those of *M. sylvatica*, to which I believe it ought to be joined. *M. lithospermifolia* (at least the plant of the Italian authors) is also, I think, a form of *sylvatica*. I conclude therefore that *M. suaveolens* is the name to be used. What do you say? Also I believe *suaveolens* is distinguishable from *sylvatica* by its calyx being attenuated gradually into the peduncle, not rounded off in a hemispherical manner as it appears to be in *sylvatica*. I have lately been working at the grasses. *Elymus europaeus* I consider as a *Hordeum*, as Hudson did, and call it with him, *H. sylvaticum*. Our *Phleum alpinum* is certainly not that of the continental authors, but *P. commutatum* (Gaud.). In *Eriophorum* I think that we ought to adopt the name of *latifolium* for our *pubescens*, as it is much older, and fortunately, at the same time, better. I have lately received a specimen of *Convallaria bifolia* (Linn.) from Northumberland, where it appears to be truly wild. *Epilobium virgatum*, of Fries, turns out to be not an uncommon plant in the deep ditches of peat bogs. It is quite distinct from *E. tetragonum*. I am now working hard at the *Carices*, and after that have very little more to do except *Salix*, and if you do not help me in that, I will certainly do as I have been advised, namely, "pollard the genus." I do not pretend to know the *Willows*, and as it is impossible to obtain specimens, I cannot see how I ever am to know

* See *Manual*—"Digitaria." † See *Manual*—"Echinochloa."

them. I trust to be ready for the press in March next. Perhaps you will let me have your opinion of some of these points at your leisure.—Believe me, sincerely yours, CHARLES C. BABINGTON.

Are you the cause of Hooker lumping *Herniaria*? As to what he says about specimens, I am convinced that there is some mistake.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Jan.* 7, 1843.

Dear Balfour,—I have just thought of a way by which the Botanical Society might continue its "Transactions" at a small expense, even without taking more trouble about them than has been employed during the last year, and write to you about it, so as to get your opinion and recommendation of it, if approved, to the Society. It is probably well known to you that the London Societies print Proceedings, and that the same type that sets them up for the "Annals" Natural Society, also prints them separately for the Societies themselves. Now it appears to me that Taylor would do the same for our "Transactions," printing the papers in the A.N.S., and striking off as many copies for the "Transactions" separate, and separately paged, as the Society might desire. This plan would cost much less to the Society, and by continuing the 3*d.* per sheet charge would not ruin the Society. I have said nothing to Taylor, or to Brand about this. What do you think? I have sent a paper upon a new *Carex* to the Society for the January meeting. I do not think that the paper upon Hooker's "Flora," which you read, will be printed, as there appear to be considerable objections to publishing it. I now clearly see my way to the completion of my "Manual of British Botany," as I propose to call it; and expect to begin to print not later than March 1st, and so shall, I trust, have it ready for your summer course. I shall have eight or ten plants not in the Catalogue, and therefore of course not in Hooker. How is your class this winter?—Believe me, yours truly, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *May* 1, 1843.

Dear Balfour,—Henslow has just requested me to write to you to say that he has just received a letter from Dr. Alexander, who was authorized by the Archduke John to appoint two botanists as an English deputation to attend the meeting at Gratz in September. Henslow cannot go, and has written to say so, and you were the other person selected, but Dr. Alexander stated that he had left it to Henslow to write to you. Unfortunately the letter has been here for a month unanswered, and so Dr. Alexander is gone from England; you must therefore write to say if you will or will not go, to the address enclosed. If I could speak German I would have taken Henslow's place, as he proposed to me, but without that accomplishment it is useless. I do not suppose that you will accept the above

invitation, and therefore still expect we shall meet in August at Cork. I am beginning to get very angry with the Botanical Society, and I think I must give them up soon if they do not improve. I certainly shall not canvass for new members at present. I believe I have obtained as many as any person, and they must expect no more until things mend. The MS. of my Manual is now quite finished, there is nothing therefore to stop Taylor. Van Voorst publishes for me. Give your bookseller a hint to order it to be sent as soon as published.—Yours truly, CHARLES C. BABINGTON.

How shall I send a copy to you?

To Professor J. H. BALFOUR, M.D.

CORK, *Aug.* 25, 1843.

Dear Balfour,—Your letter and packet reached me two or three days since, but I have not had time to answer it until now. The supposed *Hypericum dubium* is only *H. maculatum.* The *Carex* I believe to be *irrigua.* The *Hieracium* I think *umbellatum,* and I am much obliged for the *Statice rariflora.* I am glad that you have had a pleasant party in the S.W., and seen so many plants. The meeting is now concluded, and, although very small as to numbers, has been the most successful in all other respects that I have known. Our section has taken a much higher place than it ever did before. *Spiranthes gemmipara* was shewn in a living state, and I have obtained a specimen for my herbarium, besides examining it when fresh. I go to-morrow to Clonakilty to gather *Erica Mackaiana* in a new station, and then to Berehaven after the *Spiranthes.* Forbes, Lankester, and I are together. The only public lectures have come from Section D, viz., Owen on an extinct bird from New Zealand, and Forbes on the Egean. Both very successful. To-day we have had a capital aquatic party about the Cove of Cork. Winterbottom goes with me, and we hope to spend a fortnight in the S.W., and then I must go to Bath before my return home. You had better, therefore, address me at Cambridge when you write. I wish that you had been here, as you would have made a valuable addition to our party.—Believe me, truly yours in haste, CHARLES C. BABINGTON.

To Sir W. J. HOOKER.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 3, 1844.

My dear Sir,—It may be interesting to you to learn that I possess a specimen of the true *Helianthemum guttatum,* identical with the Jersey plant, gathered by Miss H. Townsend at Three Castle Head, one of the south-western points of the county of Cork. It is very curious that we should all have overlooked the difference between the Anglesea plant and the true *H. guttatum* until an acute foreign botanist points it out to us.—Believe me, dear Sir, yours truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Jan.* 27, 1846.

My dear Sir,—It is Lowe who gave the name of *foenisecii** to the fern in our "Cambridge Transactions" in 1832. The plant is there fully described, and Bree only gave it as a variety of *Aspidium dilatatum* in Loudon's Magazine, Vol. IV. Lowe's name as that of a species has therefore a prior claim to that of *recurvum* given as that of a species first by Newman in the "National Almanack" for 1844, or perhaps Bree's name in the "Phytologist," I. 772, may be of an earlier date. Lowe's name, however, is much sooner. I have no doubt that it is at least one of the plants intended by Smith under the name of *dumetorum*, as I believe it is the plant that grows in his original station. Smith did not understand the plant, or he would not have placed wrong specimens in his herbarium as *dumetorum*, and his description is useless. I have not taken the "Rubi out of Dr. Salter's hands." He would not undertake a general revision of them, as he had not the requisite time. I wish he had done it, as he is so very well qualified, and would have done it so well. It is, however, I think, better that I should attempt it, rather than leave it undone. Indeed I am to some extent obliged to do it for my second edition of the Manual. My intention is to publish a series of articles in the "Annals," and to form them into a tract afterwards. As to making them intelligible, I cannot promise that, but will do my best. Salter and I hope to persuade the Ray Society to publish figures of them at some future time, and to undertake it jointly. I saw Sowerby lately, and he shewed me the printed descriptions of *Allium Babingtonii*, and some other plants. He is delaying until he gets another half-sheet printed, as the description of *Leersia* only half went into the part printed. He hoped that it would soon be ready.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *March* 8, 1846.

Dear Balfour,—In the "Gardeners' Chronicle" of yesterday, I see that you stated at the Highland Society's Meeting, that the *Ulex strictus* is a "mere variety, and cannot be raised from seed." I wonder at your venturing upon such a statement, which is opposed to all the evidence that we possess upon the subject. I fully believe that the *U. strictus* is not a variety, as it has good specific characters; and it has been raised from seed on more than one occasion, and always, as far as I can learn, has come true to the form and structure of its parent. The objection to it as an agricultural plant is that it seeds so seldom. If it would produce seed I have no fear of its being raised usefully. I have thought it right to let you know the above, as I know that you would wish to be quite correct in your statements, and as I should be glad to have similar corrections myself.—Believe me, yours very truly, CHARLES C. BABINGTON.

* See *Manual*—"Lastrea aemula."

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *March* 19, 1846.

My dear Sir,—What do you say to your *Melampyrum commutatum* (not of Tausch, which is *M. pratense*) from the Wye being *M. nemorosum*? Its bracts seem to differ in having their base cordate-inciso-dentate, as in that plant, and the calyx is apparently rather hairy or hispid, that is, as far as I can judge from the specimen. In the true *M. nemorosum* the calyx seems usually, perhaps always, more decidedly hairy. What am I to call the Tintern *Euphorbia*? It is doubtless the *E. stricta* of Koch and Reichenbach, but not of Linnaeus; and as Jacquin's name, *E. platyphylla*, is synonymous with *E. stricta* (Linn.), our plant seems to be without a name. My own idea, however, is that in such cases it is far better to take the names as employed by all (as far as I can learn) of the continental botanists, even if the Linnaean herbarium does present different plants. A change from the general usage only tends to create confusion. I wish that Kippist had written upon them, as we expected him to do. I have received your letter of the 16th. The specimens of the Saxifrage are from Thirlmere. I know nothing of *Hieracium nudicaule*, and have vainly hunted for Edmondston's description of it. Can you assist me? I will write to Bromfield about the *Malva*. From what you state it does not seem that I can take any notice of the *Erodium hymenoïdes*. I am quite ready to describe the *Crepis taraxacifolia* if you have determined not to do it. I wish that you would.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *March* 28, 1846.

Dear Balfour,—I have sent Dr. Alexander's paper to London, and have little doubt of its obtaining a place in the "Annals" for May. Have you any notes upon my Manual? I have nearly concluded a careful revision of it with a view to a second edition soon. Please send me what you have as soon as you conveniently can. My cousin and I have determined to try and get some lots from poor Graham's herbarium, and I shall be obliged to you, as you will doubtless attend the sale, if you would bid for them in my name. I give them, and the highest sums to which we wish to go, on the next page; as much under as possible, of course. I suppose that the Botanical Society will get some of the lots. Has the Society got Linnaeus' "Flora Zeylanica?" If not, I have a copy, which I will present to the library.—Yours very truly, CHARLES C. BABINGTON.

If you get any of the lots, please send them to me by steamer, and let me know the price, and the name of your bankers, and the money shall be immediately paid to your account there.

Dr. Graham's Sale. 7 April, 1846. *Herbarium.*

LOT		Highest price to be given. £	*s.*	*d.*
40.	Jamaica ferns	2	0	0
41.	Do.	1	0	0
42.	Mauritius ferns	1	10	0
43.	Cape ferns	1	0	0
	(*If the two sets are duplicate, all I want is one of them.*)			
58.	Ross-shire plants	1	0	0
84.	Madeira and Mediterranean specimens	3	15	0
85.	Arctic plants	2	10	0
89.	Maltese from E. D. Dickson, with catalogue	4	0	0
110.	Arctic plants, at £1 5*s.* the 100, or as near as may be			

28 *March*, 1846. *For* CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *May* 15, 1846.

My dear Sir,—It is probable that you are quite correct in supposing that *Ranunculus Lenormandi* will prove a common plant. It is just one to be overlooked until attention has been drawn to it. I place the specific character in the nuts; other characters may be, and probably are, variable. My friend Newbould writes that he found *R. Petiveri* (Koch) "in a pond between the Salterns near Birdham and Chichester." He is very accurate, and so cautious, that, although I have not seen the specimens, I think it highly probable that he is correct. I have often looked for it, but could never satisfy myself that I had found it. I have doubts about it being distinct. I have a plant that may perhaps prove *R. Baudotii*, from the Channel Islands. I see that Godron ("Flora Lorraine," I. 15) distinguishes *R. caespitosus* (Thuill.) from *R. aquatilis*. He is a good botanist, and is generally correct, so that his opinion is worthy of attention. His book is an excellent one. I have the idea that his *R. caespitosus* is a form of *R. Petiveri*, without floating leaves. I am glad that you have sent the *Ranunculus* and *Carex montana* to Sowerby, and am pleased that Dr. Booth will describe the latter, as he will do it well. That *Lastrea foenisecii* is distinct from the others I have no doubt, and am much pleased with your experiment about the smell of them. I did read Newman's observations, and was much amused to find that I had been so "ingenious" and so "unsuccessful," as I had been led to suppose by such ignorant people as you and Mr. Forster, that I had been to a great extent successful. Newman's article would admit of an easy answer, but it does not seem to be worth the trouble. His idea of *foenisecii* being intended to include a group of species is quite without foundation, I believe. Even if it was so, the *L. recurva* is clearly pointed out by Lowe as the typical plant of his species, and in such cases the rule is clear,

viz., take the specific name for the typical plant, and give what names you please to the others. Lowe's paper was read in 1830, and published very soon after, but I cannot tell the exact month; the fern is given as a species. Bree's note was in 1831, in which the plant is named as a variety, and said to be perhaps a distinct species, but he does not name it as a species. Bree made it a species first in the "Phytologist" (p. 773), thus many years after Lowe's name, "Haec omnia—millibus (not nullibus) exemplaribus stabilita sunt." I should say that Mr. Lowe does not "purposely and advisedly" include two plants; he only notices a *status*, not even *varietas*, caused by a more shady place of growth. Newman may say what he pleases, but he has manifestly wished to keep his pet name of *recurva* for the fern, and so sees all the arguments that he can force to his side, and not those tending to the other view. I shall of course adopt *foenisecii* as the name, when I reprint my Manual, as being the oldest specific name belonging to the plant. I shall also use *spinulosum* and *dilatatum* for the same reason, notwithstanding Mr. Newman's protest. In doing so, I think that I have your opinion with me.—Believe me, yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *June* 2, 1846.

Dear Balfour,—I have sent by this post a copy of my "Synopsis of Rubi," directed to Maclagan. Your class is most wonderful, and I congratulate you very sincerely upon it. It is probable that you will have a very large party to Clova, and I rather doubt if Newbould will be able to stand it. He is one of those singular cases of constitutionally nervous persons who never even suspects that he can do anything as well as any other person in company, and indeed has not the slightest idea of his own powers. If your party is very large, you had better dissuade him from going when you see him at Edinburgh, and put him upon some other plan. He is a very nice and very excellent fellow, but one that requires to be taken under the charge of some person who has influence over him, such as you would have, if in a small party, for he has a high opinion of you. When I expected to be in the north myself, I intended to have taken care of him in all respects, as he has no idea of fighting his own way. If you hear of any nice person going in any other direction, I should recommend you to let Newbould know of it, and can recommend him strongly as a companion. He is a *most accurate* botanist. (Direct to him at Sharrow Bank, Sheffield.) You will have seen that we are trying to get money for our new Botanical Garden, and hard work it is to move our people, who have no idea of botany being of any use. It seems, however, that we have made some impression upon their fears, and so shall probably, in the end,

succeed. Never was botany at so low an ebb as now in this place. A non-resident Professor, who only comes here for five weeks (as he calls it), going away on Saturday morning in each week, and returning Monday evening. I have been taking a party of our few naturalists for a short excursion on each of the last four Saturdays, but never got more than twelve to accompany me, all of them quite beginners. Now all are going away for the summer, so there is an end to trips with them. We start for Iceland on about the 15th inst., and hope to get back in August. I do not expect to get much. —Yours very sincerely, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *June* 6, 1846.

My dear Sir,—I do not know what to say to the *Allium* from Tintagel. It has always appeared to me to be very much like a distinct species, but I do not know upon what characters to found its distinction, unless those given in my Manual are to be depended upon. The crenulated striae in the leaves is a curious difference, and probably specific. On what characters do you depend? I know nothing of the authority for *Allium reflexum* of Dietrich, and have only seen the name in Steudel. It is a very good name for our plant. What very hot weather! We have had 82° to-day, and 79° and 80° for several days past. I am leaving home next week (Thursday or Friday), and going with some relations in a yacht for a few weeks to Iceland, hoping to be back by the middle of August. I propose to turn my attention almost entirely to botany, and get as many specimens as I can. I hope that you will be able to tell me more about the *Allium* on my return, as I shall probably have to print a second edition of the Manual in the autumn or winter. Please also to note down any other things that may occur to you for the improvement of the book. Remember me kindly to Mrs. Borrer, and believe me to be, sincerely yours, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *June* 11, 1846.

Dear Balfour,—I leave home on Monday morning, and expect to sail on Tuesday, so please to have anything for "Annals" sent to Taylor. I am much obliged to you for the specimen of *Luzula nivea* from near Dunfermline. Dr. Dewar is fortunate. You or Brand should go and explore the place where he finds the *Luzula*, and make out if it is a true native or not. If really native, send an account of its discovery directly as a paragraph to the "Annals," so that we may first publish it. Thank you and your pupil for the hint about *Euphorbia Lathyris*. I believe that the seeds are rough.

Leighton says smooth, which led me astray, as I have none of the seeds to examine. You speak of our "wealthy University." Private colleges are rich, but the University has no power over their funds, and is very poor. The only modes by which to get the money for our new Garden are: 1st, by taxing all the members of the University, and there are difficulties in the way of this, or, 2nd, by private subscription, and this is unjust. There are no public funds to go to. I hope that we shall succeed in the former mode next term. Of course you go to Southampton in September. I hope to be there. Yours very truly, CHARLES C. BABINGTON.

If any botanists go to Ben Lawers this year, request them to look to the *Eriophorum* in the boggy streamlets far up the mountain. Is it a state of *E. vaginatum*, or new; or a single-headed form of *E. angustifolium* of Smith? My specimens are bad, and I have no roots.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *June* 12, 1846.

My dear Sir,—The Rev. W. W. Newbould now lives at Bluntisham, St. Ives, Hunts. He will leave that place at Midsummer, and after September will be curate at Comberton, near Cambridge. I doubt if he has now a specimen of the *Ranunculus Petiveri* in his possession, as I have two of his (one for myself and one to go back to him). He did not tell me of having any more. He was at the Clerical College at Chichester some years since. I fear that *R. Petiveri* is only a variety of *R. aquatilis*, but think *R. tripartitus* is distinct. I think that I have *R. Baudotii* (Godron) from Jersey. It is (?) another form of *R. aquatilis*. Balfour has just sent me *Luzula nivea*, which is found in great plenty and undoubtedly wild in a wood near Dunfermline, by Dr. Dewar, of that place. I have told Balfour to go and see it, and investigate its claims as a native. I rejoice that you have taken up the *Allia*, as you will make out all of them for us. I shall look for your conclusions on my return. I suppose that Smith's *A. carinatum* must be considered as a variety of *A. oleraceum*, as is done by Fries, etc. If you have got a flat-leaved state of *A. vineale* it will go far to prove that Fries is correct in supposing that it is the true *A. arenarium* of Linnaeus. What think you of the white-flowered *Myosotis versicolor* from damp places? Its calyx is said to be much less deeply divided than that of the ordinary plant.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Oct.* 26, 1846.

Dear Balfour,—You have sent me a puzzle. Is it indeed from Yorkshire? I have the same plant (and a good drawing by Sowerby) now before me from the coast of Lancashire, where it was found by

a Mr. Kenyon, who referred it to *Pyrola elliptica*—which it is not —although I also had independently suspected it to be like that same plant. It is also much like *P. chlorantha*, but has not, as you well observe, the long tubular pores. *P. rotundifolia* has short ones, in which point Hooker is in error in the "Fl. Bor.-americ." Our plant seems to differ chiefly from *P. rotundifolia* by its shorter and broader sepals and numerous bracts. I agree with you in thinking it very like *P. asarifolia*, which Hooker places under *P. rotundifolia* in the "Fl. Bor.-americ." I have not access to specimens of it: have you? *P. asarifolia* has reniform leaves, which cannot be said of our plant, in which they are rather to be called elliptical. On the whole then I am inclined to consider our plant as a form of *P. rotundifolia*; for the only character which could be taken to distinguish it is the calyx, and a slight irregularity which usually exists in the flowers. That from the bracts, Brand's specimen proves of no value. Shall I send back the specimens?—I suppose so. I keep them now in case of the necessity of reference again. I think that we shall have an attack upon Forbes from the enemy soon. H. C. Watson writes to me in such a way as to make it almost certain. I fear that Forbes has taken my E.S.I.* as his guide. Those must in many cases be incorrect, and at all events only pretend to be an approximation to the truth. Are the new laws of the Botanical Society printed (they ought to be, together with the former statement of the objects of the Society and its revival)? If they are, send me a few in the parcel.—Yours very truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Oct.* 31, 1846.

My dear Sir,—I have received a letter from Kippist in answer to one asking him what I am to name the *Euphorbia* from Tintern and the *E. stricta* of cultivated land, in which he gives me no opinion on the subject. I therefore now write for your opinion upon the point, and hope that you will favour me with it at your early convenience, as I am preparing a second edition of the "Manual" for the press. Please also to give me any other hints that may occur to you, in order that I may have the opportunity of making use of them. I have recently received a beautiful specimen of *Achillea tanacetifolia* found in a true native station near Sheffield. It is a very fine addition to our flora. I had a very pleasant voyage to Iceland, and, although my time was sadly short, from causes over which I had no control, I obtained a pretty good collection of flowering plants. I got as far inland as the Geysers, and was much interested by the peculiarly wild and singular character of the country. Most of the species are British, such chiefly as inhabit our lofty mountains, or the northern parts of Scotland, but there were some nice Arctic species mixed with them. The

* England, Scotland, Ireland.

country is all either bare rock, morass, or covered with large loose stones, with bare earth between them, having here and there an individual plant growing. Adverse winds, or rather storms, prevented our intended visit to the unexplored eastern part of the island. This disappointed me greatly as you will easily believe. However, I worked hard and made the most of my limited time and opportunities. The species I obtained are, of course, not numerous, but of many I have a considerable number of specimens. Where have you been this summer? and how is your health? Let me hear from you soon. I trust that Mrs. Borrer and your family are well.—Yours very truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Nov.* 6, 1846.

My dear Sir,—I have just examined the characters of the *Euphorbia platyphylla*, as given from all his works in the Codex Botan. Linn., and it seems to me nearly or quite certain that our Tintern plant is the *E. platyphyllos* of the Sp. Pl. in third edition, of which there is a description. Nevertheless I am inclined to agree with you that it will be best to adopt the nomenclature used in Germany. The specimen in the herbarium has only caused confusion, and it is much to be wished that some of the specimens in that collection had been put into the fire by Linnaeus. I think that *E. B.* 333 belongs to the cornfield plant *E. platyphylla* (Koch), not to his *stricta* where he quotes it. The *E. stricta* I do not at all understand. I have not seen Jacques' figure lately, but have quoted it under *E. platyphylla* (Koch). I have no specimen of the Swedish *Calamagrostis lapponica*, nor British one of *C. stricta*. I believe that the ligule is a character between the Scottish and Irish plants. I have just looked at the Irish plant, and do not see much reason for doubting its identity with the *lapponica* of Wahl. The chief difference is in the length of the hairs. I am not prepared to consider the *Vaccinium macrocarpum* as a native without more evidence. There is often much difficulty in distinguishing *Sinapis monensis* and *S. Cheiranthus*, but, although the characters may be bad, I am not yet ready to call them one species. I have looked over my specimens of *Malva*, nearly allied to *M. parviflora* (Huds.), but do not find anything that will do for your Llanelly plant. The carpels being reticulated and *not* margined, and the (small?) flowers would distinguish it from all the species which I know. Does Hooker think it new? and if so, will not he describe and name it, or will you? I long much to see it. I hope that you have seeds to grow in your garden. I hope to be able to go to London on Tuesday, and meet you at the Linnaean, and take with me my specimens of *Malva*, and also *Achillea tanacetifolia*. I may be prevented by University business, and should not go that week, except to meet you.–Yours very truly, CHARLES C. BABINGTON.

To the same.

St. John's College, Cambridge, *Dec.* 23, 1846.

My dear Sir,—I am sorry to say that engagements will lead me from home in exactly the opposite direction from Henfield during the time that I can well afford to spend from home this winter. If you look at the list in Fries' "Summa," I believe that you will find that he places the name of *Atriplex deltoïdea* as the species, and Drejer's name as the variety. I assure you that I have studied the "Summa" most carefully, examining my specimens by the observations contained in it. It took me nearly a fortnight to do so. I certainly consider the inflorescence of tables 447 and 448 of "English Botany" quite different. In 447 it is determinate, the terminal bud producing a flower; in 448 it is indeterminate, the terminal bud continuing the growing shoot, and only the lateral ones producing flowers. These are the two primary types of inflorescence to which all the modifications may be reduced. I thought I had given you *Scirpus uniglumis* from the island of Lewis (Barvas), but if not, will endeavour to find a specimen, but much fear that they are all gone. I have no duplicates of *Linaria supina*. Mr. Keys only sent me enough to determine the plant, and supply my own herbarium. You will ultimately get some of the Iceland plants, but they are not yet ready for distribution, and I have not had time to determine nearly all of them, being otherwise occupied. With all the compliments of the season to Mrs. Borrer, yourself and family, believe me, yours very truly, Charles C. Babington.

To the same.

St. John's College, Cambridge, *Dec.* 31, 1846.

My dear Sir,—I write to tell you of a point that has just occurred to me concerning *Atriplex rosea*. Fries in his new work ("Summa Veg. Scandinaviae," p. 201), states that a specimen of my *A. rosea*, which I sent to him, is his and Meyer's *A. crassifolia* (an excellent name for our plant); and I now find that I have not a single specimen corresponding with his *A. rosea* from Sweden, which is also the plant of Koch. In the true *A. rosea* the lower leaves are rhomboidal ovate, the upper ones ovate; in our *rosea* they are much more like those of *patula* and *angustifolia*, being nearly always furnished with a lateral lobe on each side, so as to be triangular ovate. This form is found even in the uppermost in nearly all cases. Not so in true *A. rosea*, which has no lobed but ovate upper leaves. In mode of inflorescence, and want of the dense spike of male flowers of *laciniata*, our and the Swedish plants agree (*see* Fries "Nov. Mant.," III., 163). Have you the true *A. rosea* (Fries' plant), native of Britain? I suppose that I must turn out the name *rosea*, and take that of *crassifolia* for our plant. Is that your opinion? I hope that you received a letter from me recently.—Yours very truly, Charles C. Babington.

To Professor J. H. Balfour, M.D.

St. John's College, Cambridge, *Aug.* 6, 1847.

Dear Balfour,—I have this day sent to the care of Pamplin the most complete set of my Icelandic plants, next to my own, that I could make up, and inform you of it, in order that it may be looked after. I have sent the second best set to Hooker. I shall be glad to have a few lines from you, giving an account of your success in the Highlands. Would it not be a good plan to send a short account of your trip to the "Gardeners' Chronicle," as the "Phytologist" is out of the question? I hope to send a packet of British plants, in the autumn, for the Society, but have not now time to look them out. I go with Newbould into North Wales on Monday next, and intend to examine some parts of the mountains, which are not much frequented, carefully. Not that I expect to find much, but as I shall especially attend to *Rubi*, *Grasses*, *Carices*, and *Hieracia*, I may by chance hit upon something. I shall probably take Herefordshire on my return, and spend a short time there with Lingwood. You will have seen what a terrific election we have had. The return of a Whig was impossible, and so we did our best, and returned a Peelite as the next thing. A letter directed to me here will be sure to find me sooner or later.—Believe me, yours very truly, Charles C. Babington.

To the same.

St. John's College, Cambridge, *Oct.* 4, 1847.

Dear Balfour,—I see by a letter of yours that Evans intends publishing a fasciculus of *Hieracia*. He had better take care what he is about with them, and be sure that he publishes typical specimens. Bloxam has rather done harm than good by his published set of abnormal *Rubi*. I am very greatly obliged to you for the set of specimens which you tell me has been sent by N. B. Ward to London. I shall write to him about them soon, and you shall have my ideas upon any that seem to require notice as soon after I obtain them as I can, and also return you such as you desire. As to Oken's book* I have but little to say, as I have read very little of it. I do not pretend to understand it yet, although I think I have some idea of his argument. Many expressions in it are so worded as to lead to a bad interpretation of them, but in my opinion none such is intended by the author. More care ought certainly to have been taken to avoid all ambiguous expressions in the translation. I think that very few of the members will read many pages of it. Many doubts were expressed at Council Meetings as to its being an advisable publication. I was, and am, one of the doubters. I am not prepared to go so far as you say that Lankester does, and declare that there is "nothing wrong" in Oken's book,

* "Elements of Physiophilosophy, by Lorenz Oken, M.D., Ray Soc., 1847."

but neither does it strike me in the same light that it does you, as being "blasphemous." I am sorry that you have withdrawn from the Council and Local Secretaryship. It will, however, be a good warning to the London members of the Council to mind what they are about in future. Ask Brand what are his wishes about the Part of "Transactions" now standing in type at Taylor's. If I do not hear in a few days from him, I shall print off and complete the Part as soon as I can.—Yours very truly, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 3, 1847.

Dear Balfour,—I send the paper on *Anacharis*, etc., which you will see has grown to a goodly size. Did you see the hash that Newman has made of this matter in the December "Phytologist"? His three synonyms belong in all probability to three species of two genera. His three new stations are only two, and belong, I believe, to other species. His exultation about its being new to Europe is as great a blunder in the present state of his knowledge, as there are two species, supposed to be *Udora*, by Reichenbach, and one by Koch, in Europe. The *Vallisneria verticillata** is either a *Udora* or *Anacharis*. If there are duplicates, I should like one greatly. The first portion of Des Moulins' tract is indeed published in the "Comp. Bot. Mag." Many thanks for pointing it out to me. But the confirmatory part is not, so that the paper may be worth reading at some meeting when a paper is wanted that is not purely technical, and I can put it into the "Gardeners' Chronicle" afterwards. I hope that you are now well.—Yours very truly, CHARLES C. BABINGTON.

I have omitted the plate, and may have to leave it out altogether, owing to expense, in the "Annals."

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 20, 1847.

Dear Balfour,—I am sorry that you have sent your only specimen of Roxburgh's *Vallisneria verticillata*, or rather that you did not put a stiff bit of board in with it, for it has got broken all to bits in the post. Plants that are glued down will hardly ever pass safely through the post. I believe it to be a male plant of *Anacharis Nuttallii* (Planch.), judging from the remnants of a single flower. I have but little doubt that you will find specimens of the same in the collection of duplicates of the Society, and so will be able to supply yourself with a good one again. I shall not return the scraps until I hear how this has proved to be, as they are not worth it, if any specimen can be obtained to replace them. Glad to find the Society going on so well, and hope that it will soon

* Otherwise *Hydrilla v.*

again take the first place in all points as it always has done in some. You had better exercise your own judgment about the paper on the reproduction of Cryptogamic plants, and if it is, in your opinion, worthy of the "Annals," send it direct to Taylor for publication. It is a subject upon which you can form a far better judgment than I am able to do. It is not unlikely that an abstract would be all that is desirable. Could not its author be persuaded to reduce its length, and bring it within moderate limits, that is, if you think it ought to be reduced? I trust that Duncan will be successful in his canvass for the Clinical Surgery Chair. Remember me to all friends, such as Brand, Goodsir, Parnell, Maclagan, etc., and believe me to be, very truly yours, CHARLES C. BABINGTON.

I am now at work at a second Supplement to the "Synopsis of Rubi," which will come before the Society in due time.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 25, 1847.

Dear Balfour,—A happy Christmas to you, as we say in England. I am much obliged by your kindness in sending the specimens of *Serpicula*. I will write to Pamplin immediately to send them to me. My paper is in Taylor's hands, and will be in the February number, but will, of course, admit of correction in the proof. I have obtained a flower of the Leigh Park plant recently, and believe it to be *Anacharis Nuttallii*. It seems to differ from the flower of my *A. Alsinastrum*, in some minute respects, but it is very difficult to expand such small and tender flowers sufficiently, to tell their form accurately. The plate of my plant is in preparation, and will, I hope, be ready to accompany the paper. The specimens, and also the remains of the *Vallisneria*, shall be soon returned as you direct. I should greatly like to have a set of duplicates from the Swedish botanists' packets as soon as Evans has time to select them, and will gladly pay the Society for them, at the rate fixed. I particularly want the Scandinavian "Rubi" and "Hieracia." As I have collected the materials for another paper on "Rubi," these are now desirable to me in a peculiar manner. I would wish to delay its completion until I see the Swedish plants, as some of mine may prove the same, and also, I should wish to be able to say certainly, from examining specimens, that our other species are identical with theirs. I am glad that you have got a set of Leighton's fasciculus plants. It is a more valuable set than Bloxam's in many respects, more especially from most of them being typical, which Bloxam's are not. The specimens themselves are not always so good as I could have wished, owing to the late season at which they were gathered. There have been several new plants added to our Flora since the publication of the Manual. I add a list of them, as far as my memory goes, which you can mention to the Society if you think it desirable. Of "Rubi" there are several, but these I omit at present.—Believe me, Yours very truly, CHARLES C. BABINGTON.

To the same.

St. John's College, Cambridge, *Nov.* 2, 1848.

Dear Balfour,—I have heard nothing from you about the *Anacharis* from Duddingstone. I believe that Dr. James Mitchell has sent a paper upon it, as found at Nottingham, to the Society. If so, will you have the kindness to state as from me that I have a specimen of *Anacharis Alsinastrum* now in my herbarium, sent to me in July, 1842, by Dr. G. Johnston, of Berwick, and gathered in a pond at Dunse Castle in Berwickshire. The specimen was sent for determination, it being new to Dr. Johnston, and I shewed it to several good botanists, but as it was barren it was not named by them, and I had not then the means of determining it myself. It had escaped my memory, and the specimen was temporarily lost before the receipt of the plant from Leicestershire. Will you see if you have a duplicate of *Lastrea filix-mas*, with doubly serrate pinnules? It is the *L. erosa* of Deakin, but not, I think, the same as Moore's variety *incisa*. Deakin has it from the Cathcart Hills, near Glasgow, where it grows in great profusion. I very much want a specimen, as it seems to be distinct. Will you try and get one for me? I hope that Mrs. Balfour is well. Remember me to Brand, etc., and believe me, very truly yours, Charles C. Babington.

To the same.

St. John's College, Cambridge, *Nov.* 17, 1848.

Dear Balfour,—I really do not see what is to be done with Mitchell's paper, except to make an abstract of it, and put it into the report of the meeting of the Society. I hope that you mentioned from me the prior discovery of the *Anacharis* by Johnston at Dunse Castle. I hope to have a paper by Spruce upon *Pyrenaean Mosses* to send, to be read in abstract at the next meeting, as he has offered it to the "Annals," and allows it to be also put into the "Transactions." I suppose from what you say about the "Transactions," that Brand has sent the Part out. Is that so? and what measures (if any) has he taken to let the members in England know that it is ready, and to obtain their payments for it? I am glad to learn that there is a prospect of the new Catalogue being soon gone on with. It is much wanted—the London one is so bad. I have many minute points to correct in nomenclature, and some things to add, and should, therefore, like to see either the MS. or a proof, with full authority to make alterations, and not be hurried in returning it. The new Catalogue must be made as perfect as possible. Of course it will be arranged in natural orders. I am sorry to learn that you have not got the *Lastrea erosa*, but hope that it will be obtained next summer, as, if in plenty on the Cathcart Hills, there can be no difficulty in getting lots of it. Have you seen Lindley's new book, called a new edition

of his "Introduction to Botany," in two volumes? It seems a most excellent work, and rather a treatise on botanical science than introduction. You will have heard that we have carried our new plans here, by which we purpose giving some credit to the Natural Sciences. The plan is far from perfect, and will require much alteration, either immediately or very soon. Our Botanical Garden gets on well, and Murray, our curator, stands, in my opinion, quite in the first rank of his profession. By the way, we have had no answer, I think, from MacNab, to our begging letter for plants to add to our collection. It has brought in about 900 species from other places. Could not he supply us with Alpine Scottish plants and *Carices*, and such like? If he looks over the list sent he will perhaps find some old plants that may be acceptable to your garden in return. Did Evans tell you of the French collection sent by me to the Bot. Soc., and also that you were to take the first duplicate out of it in all cases if you liked? The specimens are not very good, but there is a large number of them. I told Evans to shew you my letter about them, and hope that he did so, as I think that there were some matters about the arrangements of the Society intended for you to read. Has Taylor or Francis informed you of the new botanical journal intended to be started in January next, to be appropriated chiefly to popular and British botany, and so, of course, to take the place intended to have been occupied by the "Phytologist"? It is to be under the superintendence of Henfrey and Francis, and published, of course, at Taylor's office. *Of course* you will support it, and promote its circulation in the north. I have a description of a new *Athyrium* in hand, found at Keswick; and also a paper upon *Fumaria agraria* (Lag) and its allies; so that it is probable that I may soon have some "grist for the mill" of the Society.—Believe me, very truly yours, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Feb.* 8, 1849.

My dear Sir,—I cannot wonder that you have found difficulty in the determination of *Rubi*, for who does not? Although highly interesting plants, there are few that present so many impediments to the progress of a botanist. I may say this of them both in the field and study. I am much obliged to you for sending the doubted specimens to me, and hasten to give you my opinion upon them. That marked 'C' is *R. leucostachys;* 'B' an extreme form of *R. sylvaticus β villicaulis.* It deviates more strongly from the type of *R. villicaulis* than any that I had seen, by its narrowed not cordate base to the leaflet, and straight prickles on the petioles. It interests me highly, and is connected with the typical plant by a specimen of Mr. Bloxam's, from Bardon Hill, Leicestershire. 'A' *R. Babingtonii*, known by the very peculiar armature of the barren shoot. It has more frequently

quinate leaves than was supposed to be the case. It is, perhaps, not a very uncommon plant, as I now possess it from several distant parts of the country. I shall deposit these three specimens in my herbarium, and should be very glad another season to know more concerning the brambles of your district,* which I suspect is rich. I have myself found some curious bushes in the parish of Llanwarne, when visiting my friend Mr. Lingwood, of Lyston. Have you got my "Synopsis of Rubi"? If not, I will send you a copy.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *March* 14, 1849.

Dear Balfour,—Thanks to you for sending me Hardy's papers to look at. I return them, as the Society may like to keep unpublished papers, or he may apply for them again. Neither of them is at all worth publication, and they both are the work of a good observer totally unacquainted with the literature of his subject. I have made an abstract of them, and shall replace Evans' with mine if I find it in my idea better. You will have observed that the hibernacular buds of *Epilobium* are fully described in the "Bot. Gaz." p. 12. Hardy's remark upon *Sonchus oleraceus* has been of use to me, for, although wrong in his deductions, he has hit upon a point of interest which has been almost universally overlooked. I presume in the new Catalogue that you will omit the numbers marking rarity near Edinburgh and the times of flowering. The general arrangement of the Catalogue seems simple enough. Set a clerk to transcribe the genera, species, and varieties out of my book, with their orders and numbers, leaving a very broad margin for alterations of name, corrections, and additions, of which I have a considerable number. If you like to get this done, it may then be sent here to me by "Kennett's Parcel Despatch" from 25, Clyde Street for six or eight pence. I would then carefully make the alterations that seem requisite and return it, or bring it back to you in person. I can do my part better here than at Edinburgh. It is my present intention to spend the month of July at Edinburgh, and should like to form a plan to visit Sutherland or the Orkneys with you in August. Think about it. I look for your "Manual" with interest. Unfortunately, Wilson has got the start. The "Transactions" are getting on, but you know the descriptive part of Spruce is not yet printed. When that is done, there will be about enough for another Part. I wish Brand would allow us an extra sheet this time, as the papers are long, and it will not do well to break off in the middle of them. I have had some correspondence with George Lawson. He seems a moderately good botanist, and one likely to improve in Edinburgh under your hands. I am glad to learn that there is a chance now of the British

* Ross, Herefordshire.

Association being asked to meet at Edinburgh. If you wish them to go to you in 1850, you should *immediately* communicate with the Council through John Phillips or Sabine, and then it may probably be arranged. It is satisfactory that James Forbes has come round. The University has done only its duty in granting a "small sum" to the Botanical Society for keeping the herbarium (not only keeping, but making it at its own expense), as they ought to have employed a person to put it into order if there had been no Society. What a pity, and how ridiculous it is, that your college should be under the direction of the Town Council. You ought to have a new charter altering that, and vesting the property in the University. Let your Graduates follow the example of those of London, and put your University upon a proper footing.—Believe me, very truly yours, CHARLES C. BABINGTON.

Thanks for the remarks upon the portrait of Johnston. Of course I shall not subscribe until I hear from some of you.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *April* 27, 1849.

Dear Balfour,—I have just obtained some *authentic* information which may be of use to you. It seems that Sabine has for some time been in communication with (Forbes and) Brewster concerning a Meeting of the British Association at Edinburgh, and that they had arranged that when it took place, the latter should be the President of the Association. Forbes, however, had led him to believe that the Edinburgh people were opposed to the meeting, owing to some affront that they had taken it into their heads that the Association had put upon them. What it was I have been unable to learn. Can you tell? After this they, Sabine and Phillips, gave up all idea of an early meeting in the north, and as they had an invitation for the Association to go to Ipswich, they had accepted it privately, and the Ipswich people have undertaken to *build a large room* for the meeting. Still later the Edinburgh invitation was sent to Murchison instead of Sabine, as it ought to have been, and has now been presented to the Council of the Association. It was accompanied by a statement that it was wished that the Duke of Buccleuch should be the President. Sabine thus finds himself in two difficulties. He says that he cannot break off with Ipswich without affronting them; and even if he did that, that he cannot accept the Duke as President without offending Brewster. Also, that if the Council determine to recommend Edinburgh as the place of meeting for 1850, and the Duke as President, then he must resign the office of Secretary. The Council could come to no conclusion at a very prolonged meeting on Friday last (last week) and so the business is adjourned. The Council feel that Brewster will very likely not be acceptable to Edinburgh, and that the Duke would probably be the cause of a

large and successful meeting. As for Ipswich, Henslow informs me that they would have no objection to put off their meeting until 1851, as they will not be easily ready before that time. A communication then with Mr. Ransom would probably arrange that part of the difficulty if your men took it in hand. Henslow has the best means of knowing the views of Ipswich. On the matter of the Duke and Brewster there is far more difficulty, as I think that Brewster would not withdraw in favour of the Duke, as would be the best way for the good of the Association. Neither can the Association afford to lose Sabine as Secretary. I do not know what to advise in this matter. Sabine has himself caused much of the difficulty by acting prematurely in the election of a President. Your party has also committed an error in not communicating with the London men sooner, and then even at last doing it through Murchison (who holds no office in the Association) in place of Sabine or Phillips. My idea, and that of Sedgwick, is that the order of future meetings should be: Edinburgh in 1850; Ipswich in 1851; Belfast (from which there is an invitation, I hear) in 1852; and perhaps Aberdeen (if Brand is right in saying that an invitation will be sent from that city) in 1853. I hope that you will succeed in having the next meeting at Edinburgh.—Yours truly, CHARLES C. BABINGTON.

What about the "Botanical Society Catalogue"?

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *June* 9, 1849.

Dear Balfour,—I have been expecting to have some account of the progress of the draft of the new "Catalogue of Plants" for some time. There has been lots of time to get a transcript of what was requisite; indeed, I rather wish now that I had got it done here. There will be many points concerning the nomenclature that I cannot satisfactorily settle away from home, as I shall probably have to consult books and specimens about them. Let me know how the matter stands, as I am only waiting here for a letter which will probably remove my quarters to Bath or the lower part of Somersetshire for a month. I am much pleased with the "Manual of Botany," and so, I learn, is Henslow. He and I have recommended it, and I think that a few copies of it have been sold here. It came out too late for this place—at least, the first copies that came here were too late. Henslow only got his on the day on which he concluded his lectures. I wish that you had not adopted Jussieu's name for figure 250 (page 161), for that figure certainly does not represent the true *Cerastium tetrandrum*, but in all probability is a representation of *C. atrovirens*. I shall make note of anything that strikes me in the book, and communicate it to you, as I presume that that is what you would wish. I was much pleased to learn recently that

the Council of the British Association had decided by a small majority to accept the Edinburgh invitation for 1850. I suppose that the end of September will be the time. You will certainly have a good meeting, and also find that you have plenty of hard work in making the arrangements.—Yours very truly, CHARLES C. BABINGTON.

Please to collect *Armerias* on your coast, etc., this season.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *July* 7, 1849.

Dear Balfour,—I only received your *two* letters this evening, on my return home from an interesting trip to West Somerset. In the first place I have to say that Bowerbank's steamer-plan is at an end. I should greatly like to go with you to "Ultima Thule," if it is not now too late for you to make the arrangements. In case that it can be done, I would join you after your Braemar trip is over, as that will give me more time here to get through a great accumulation of work. Let me know as soon as you can, if you can go, and about what time. I cannot understand what the Botanical Society are about in wishing (and directing) the Catalogue to be in alphabetical order. If so done, it will drive me and numbers of others to use the London Catalogue, bad as it is. I see no use in the arrangement of genera except to cut up as labels. Although I am going to give you all the help in my power, I wish it to be clearly understood that I am quite at liberty to draw up and print a catalogue (arranged as the Manual or otherwise) as soon as I please: indeed my present intention after reading your letter is to do so next winter, as I am in great want of one, and shall find an alphabetical one more troublesome than useful. I will write again soon.—Very truly yours, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Aug.* 4, 1849.

My dear Sir,—I have looked at the grass enclosed in your letter, and should say that it is *Glyceria plicata*, notwithstanding the colour of the anthers. Experience tends to shew that the *colour* of that part is not so fully to be depended upon as was supposed. I have never seen what I could truly call *plicate* leaves, and half suspect that authors have copied, one after another, from Fries, without confirming that author's description. Some suppose that we have a third species, and others that the two both vary considerably, so as to seem to combine, although they do not do so. I am sorry that I am thus obliged to leave the matter in doubt, as I have been much puzzled by these plants, and do not yet see my way out of the difficulty.—Yours very truly, CHARLES C. BABINGTON.

To the same.

St. John's College, Cambridge, *Aug.* 18, 1849.

My dear Sir,—I was much pleased to learn that you contemplate a "short account," as you call it, of the *Glycerias*, as I fancy that there is still something to be made out concerning them. Several botanists of my acquaintance have examined them, and suspected that a third species existed, but have not been successful in detecting good distinctive marks for the three. I have never been able to determine upon what Fries founds his name (plicate) as I do not find that the leaves of that plant are especially plicate. Mr. Newbould thought that a distinction might be found in the ridges on the sheaths of the leaves.—Believe me, dear Sir, very truly yours, Charles C. Babington.

To the same.

St. John's College, Cambridge, *Sept.* 11, 1849.

My dear Sir,—I have only recently received your letter of the 25th of Aug. and have therefore found the flower of *Epipactis* in a perfectly dry state. I have endeavoured to determine its form by softening, but, somehow or other, have not succeeded. The want of the central spot upon the lip puzzles me, as that is a part of the constant structure of the allies of *E. latifolia*. Is it not a monstrous specimen, or may there possibly have been some error? The *E. ovalis* grows amongst the loose heaps of stones at the foot of the limestone rocks. How will that accord with the station of your plant? Perhaps you had better let the matter rest until next year, and then endeavour to find more of it, as doubtless there is plenty of the plant if well hunted for. I find that you have sent an article to the "Botanical Gazette" upon the *Glycerias*, I suppose. I have just been examining them here, and feel satisfied that there are three well marked plants (species or not) and as I have not your specimen at hand, having in all probability returned it to you, I am unable to state to which of them I should now refer it. My friend Mr. Townsend paid considerable attention to them some time since, but did not then succeed in convincing me of the distinctness of the three plants, although he was quite satisfied of it himself. He did not publish an account of them. I go to Birmingham to-morrow, for the British Association Meeting, and may possibly be in your neighbourhood afterwards, but am uncertain.—Yours very truly, Charles C. Babington.

To Professor J. H. Balfour, M.D.

St. John's College, Cambridge, *Oct.* 6, 1849.

Dear Balfour,—I was much disappointed at not seeing you at Birmingham, and greatly grieved to learn the cause of your absence. I trust that Mrs. Balfour is now restored to health. We had a

very satisfactory meeting, and every one was well pleased to learn that we shall meet next season at Edinburgh. I much wished to have had the consultation which we proposed upon the new Catalogue, as we should probably have come to some understanding about it by such a discussion. I am as much opposed as ever to the alphabetical arrangement, and no person to whom I have mentioned the subject has a word to say in its favour. Why not arrange the generic names alphabetically, and the species systematically? This would surely meet the objects of the Society (if I am not in error in my idea of what those objects really are) and also give the public the advantage of an arranged Catalogue as is wanted greatly now. You told me to send the enclosed paper to Ralfs, and not knowing where to find him I took it to Birmingham, hoping to learn from you; now I think it best to return it to you, to be employed as the Society may direct. I have not been botanizing since the Meeting, but spending my time at Lingwood's house in Herefordshire. I hope soon to see you sending some short article to the "Botanical Gazette," as an encouragement to Henfrey to go on with it. He has determined to continue it another year, as there is a good prospect of its being a paying Journal if that is done. Have you seen his little introductory book on Botany? I think you will like it.—Believe me, very truly yours, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Nov.* 17, 1849.

Dear Balfour,—If you like to place a paper of mine upon the billet for the December meeting of the Botanical Society you may do so, under the title of "On the British Species of *Chara*." If not desired for that meeting, I will keep it for a few weeks, but send it now if you ask for it. It is rather long and will be perhaps best read in abstract. That, however, you will see when it comes to you. I am glad to learn that the Committee have not yet finally decided as to the arrangement of the "Catalogue." I certainly fancy that the plan of arranging the species systematically, and appending an alphabetical list of the genera, is by far the best. Leave out the Linnaean arrangement, as quite unnecessary and adding to the expense. In the Association matter Brand will find that he has got a very unsatisfactory job as Treasurer to begin with, viz., the getting subscriptions to the Local Fund. He should draw up a circular and get it sent to *all* the influential people in the city and neighbourhood, setting forth the necessity of forming such a fund, and stating (if our plan is followed) that the sum which may be over at the winding-up of the accounts will be placed at the disposal of a meeting of the subscribers, to be called together for that purpose. As you say that I shall be wanted next summer at Edinburgh, I have made up my mind to be with you as long as possible. Although there were no papers for the "Transactions" read at the Botanical

Society Meeting, there might be some well fitted for the "Botanical Gazette," such as short notices of plants. You ask for specimens of a number of British plants, and I wonder that they have not already reached you. I will endeavour to supply you with some of them. There are others of which I know that I have now no duplicates; some I do not possess myself. I am glad to learn that you have interesting *Hieracia* and *Rubi*. I am endeavouring to get our plants into conformity with Fries' arrangement in his recent great book about them.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Nov.* 24, 1849.

My dear Sir,—I did certainly hope to have had the pleasure of calling upon you at Ross, but, although I spent some days within seven miles of that place, I was prevented from carrying my wishes into effect. The specimen of *Ulex* sent in your letter I fully believe to be *U. Gallii*. It is what I called *U. nanus major*. The characters (on paper) between the plants are very slight, but I do not think that any doubt concerning them can exist when they are known in a living state. As you have Malvern specimens, it may be as well for me to state that *U. minor* (Lees) in the "Botany of Malvern" is *U. nanus*. The *Mentha* comes very near to *M. acutifolia*, which is a very dubious plant. I am fearful of giving a name to the *Sagina*, which has more the look of *apetala* than *ciliata*. You will do well to look after it next season. I now come to the *Epipactis*, which has interested me greatly, and should be looked after next summer, and the permanency of its structure determined. It is very like indeed to *E. ovalis*, and, I fancy, will prove identical with that plant, notwithstanding the terminal lip-lobe wanting the rugose space. I presume that the tip of this lobe, when laid flat, made the lip as long as the sepals and petals. There is still much to be made out concerning the forms combined under the *E. latifolia* of authors. A plant which I found several years since near Keswick, and of which my friend Mr. Hort has now obtained more advanced specimens, has a lobe to its lip nearly of the shape of your plant, but then the lip is much shorter than the sepals, etc. I fancy that I sent this Keswick plant to Copenhagen lately, and it is decided by Danish botanists to be new to them. I shall make a point of looking for your remarks on the *Glycerias* in the "Phytologist," but shall not notice the plants in that journal myself. My friend Mr. Townsend has a paper in hand about them, in which I believe he will describe three species. I leave the subject in his hands, for he was the first to notice the existence of three forms in England, and state the fact to the Edinburgh Botanical Society.—Yours very truly, CHARLES C. BABINGTON.

If you could at any time send to London, the *Rubi* might be left at the Linnaean Society's house in Soho Square, or at Taylor's Printing Office, Red Lion Court, Fleet Street.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 20, 1849.

Dear Balfour,—I am sorry to learn from Evans that you have been ill, and hope that it has now pleased God to restore your health. I send with this my paper upon the *Charae*, so that it may be with you in time to look it over before the Meeting, and settle what parts of it should be read in full, and what in abstract. It is rather long, but, as I hope, pretty complete, and contains a fair proportion of novelty. Townsend's paper is come back to me, and is now in his own hands to see if he cannot improve it before publication. I am not quite determined as to its place of publication—in some respects it might do for the "Annals"—in others it is more fitted for the "Gazette." What think you? Evans informs me that it is not likely that any of the other papers read at the last Meeting will do for the "Annals," and that they are in your hands. Might not some of them do for the "Gazette"? Could not you promote the sale of the latter at Edinburgh? You say that you have been endeavouring to arrange the *Hieracia* according to Fries, and I do not wonder that you have not easily succeeded. I have been, off and on, at work at the same job for weeks past, and am not as yet more than half through them. I may perhaps be able to set yours and the Botanical Society specimens to rights, when I visit the north, as I hope to do next summer. If you had known Fries as well as I do, you would have known that it was quite useless keeping corresponding numbers to the specimens, as he was sure to take no notice of them. It appears that he never answers letters, and the quotations in his book are often wrong numerically.—Believe me, very truly yours, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Feb.* 20, 1850.

Dear Balfour,—I am sorry to say that all three of the specimens of *Chara* belong to forms of one species—*C. fragilis*. I return them, but expect to hear that they were all smashed in the journey. Glad to learn that you have got some papers for the "A. N. H." and also "Gazette." It was not *Chara translucens** which I wanted from you or Greville, but *C. aspera*, from the Orkney Station. I am glad to find that you may be able to arrange so as to let the Association Meeting commence on what has become the usual day of the week. A change in that respect puts people out. I am not a little curious to see *Arnott's* "Flora," for his I suppose that it is, and hope that he will not cut mine out, that is all. I confess that I do not think that he is likely to do so. So you are going to get the herbarium into showable order for the Association Meeting. You do well, for it is of much consequence to make a good show then.—Yours very truly, CHARLES C. BABINGTON.

* Now *Nitella tr.*

To the Rev. W. H. Purchas.

St. John's College, Cambridge, *Mar.* 14, 1850.

My dear Sir,—Mr. Townsend having now inspected your specimens of *Glyceria*, and marked the names that he applies to them, I hasten to return them with thanks. He is not inclined to consider your *G. plicata* α as differing materially from your β. He has also added to the packet specimens of his three plants. Doubtless before this time you know that *G. pedicellata* is not a MS. name, having been published in Townsend's paper in the "Annals of Natural History" for February last. Concerning *Ulex Gallii* and *U. nanus* I have nothing to remark that is new. I think that they will prove to be distinct, and have long thought so, long before Planchon took them in hand. I fancy that in *U. Gallii* the wings are always rather longer than the keel, and those of *U. nanus* rather shorter; but that the quantity of difference between those two parts is very inconstant. The direction of the wing also must be taken into account, as when really longer, that may cause them to look as if they were shorter. It is probable that all this is well known to you, but I venture to mention it, in order that you may look carefully at these points this year. I again thank you for sending the specimens for inspection.—Very truly yours, Charles C. Babington.

To Professor J. H. Balfour, M.D.

St. John's College, Cambridge, *March* 1, 1851.

Dear Balfour,—The first sheet of my third edition is now in the compositors' hands, and as I have nearly finished the revision (a *very* complete one) of the whole book, I shall hasten them on as fast as possible, so as to get the book out in May if it can be done. I think that you will find it much improved in very many minute points. Indeed, I have the presumption to think that I shall keep well ahead of Hooker and Arnott in it. The more I study their book the more I wonder to find how little more *botanical* information is contained in its 600 pages than in my 400. Either Arnott has not the faculty of condensation of matter, or he has not wished to condense. I am glad to learn that your "Class Book" is in progress, and that Black is to be your publisher—nothing like being connected with a respectable man in such matters. You seem to think that I am in commercial connexion with Baillière; such is not the case. Van Voorst is a far better man to act with. You are lucky in having the Government to look to for cash to build class-rooms and museums, and right to take advantage of it. The "Catalogue" has not arrived. I may as well tell you that I have been told by the trade in London that a catalogue printed so as to fold in royal 32° is required as a portable list for use in the field, etc. I have a strong idea of issuing such a

list, to consist solely of the names of the orders, genera, and species contained in my "Manual," edition three, *i.e.* if it can be done so as to sell at sixpence. How will the Botanical Society take my doing so? As their Catalogue is (to use the remark of an active botanist here) "to combine the inconveniences of the systematic and alphabetical arrangements," I still consider that a systematic catalogue will be wanted after its issue.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *March* 19, 1851.

Dear Balfour,—I have just received the MS. Catalogue from London, and will take in hand the revisal of it immediately. I am truly sorry that the Committee stands out so firmly for the peculiar arrangement adopted, but, as it is no business of mine, and I perhaps have already written more than I ought on the subject, I will say no more about the matter than that I am not at all converted from the opinions that I have formerly given upon the matter. I have neither any wish to print a catalogue myself (for it would probably be at a pecuniary loss), nor to "much annoy" the Botanical Society, and, as I suspect from his letter, also Professor Balfour. It is only in case the Edinburgh "Catalogue" should prove, as I much fear it will do, very inconvenient to use, that I shall be tempted to issue one myself. I have a strong opinion that the pocket size would be a great convenience, and should not wonder if the London publisher (*not* Van Voorst) who spoke to me upon the subject, did it himself after my "Manual" is issued, and if I decline it. He can, of course, take the list of species from any book that he pleases. I much incline to the opinion that a catalogue should follow some book in general use, such as Arnott's or mine, and not endeavour after originality. It might (but for the space occupied) combine the two. Berkeley's address is King's Cliffe, Wansford. Many thanks for the notice of the station for *Eriophorum alpinum*, and the confirmation of the correctness of the former determination of its name. I shall insert the station. Stratton tells me that he has sent you a set of seedlings of *Rubi* from my seeds. I hope that they reached you safely.—Yours very truly, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 10, 1851.

Dear Balfour,—Recently H. C. Watson sent to me the nut of an *Eleocharis* which he thought, and has proved to be, different from any species to be found described. He has only a very imperfect bit of it, which he has almost destroyed in this examination of it. It was given to him by you, and bears the name of *Eleocharis multicaulis* from Cantire. Now what I want you to do is to look into

your bundles of *Cyperaceae*, and find all the duplicate specimens named *E. palustris*, *E. uniglumis*, and *E. multicaulis* (for it may lie hid under either of them) from Cantire and the neighbourhood, and let me have the examination of them here. I need, I trust, hardly say that they (all but a bit of the new one if I find it) shall be safely returned to you. I want to make it out, if possible, before the last sheet of Watson's "Cybele," Vol. III., is printed, and he has *now* commenced printing that volume. Send the packet to me by some mode other than through the hands of Pamplin, as he never forwards parcels promptly. Some weeks since I received a circular stating that the new part of "Botanical Society Transactions" was sent through his hands to me at Taylor's. If he had delivered it then, I should have received it in my parcel at the commencement of this month—not so however. I am glad to learn that the Botanical Society is going on so well, but could have wished that out of the fifty at a late meeting, twenty-five or thirty had spent 6*s.* a year, and so kept the "Botanical Gazette" in existence. I have been greatly disappointed at the little that was done to support it by extending its circulation last spring. All who spoke of it said that they *wished* it to go on, but none seemed inclined to take any real trouble *to make it go on.* I state this advisedly from having been told the exact number of new subscribers for this past year; which was ridiculously small, and nearly the whole were names obtained here or at Glasgow. However, it is gone now, as no one could be expected to go on losing *largely* every year.—Yours very truly, CHARLES C. BABINGTON.

P.S.—Have you seen Newman's wonderful "Synoptical Table of British Ferns"? Nearly *all* the names are *new.* Watson says, "I shall declare war against Mr. Newman's new filicetal nomenclature," and so I believe that I shall have to do after I have studied it, which I have not yet done.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Jan.* 9, 1852.

Dear Balfour,—The *Hieracium* is very difficult, and I cannot quite satisfy myself concerning it. It is much like *praealtum*, and probably is a form of it, although the distribution of *praealtum* is against our having it in Britain. *H. collinum* is a much more probable plant to occur with us—but then there are difficulties which seem to keep your plant away from it. Are you quite sure that the plant is native? As if *really* so, it will prove a more than usually valuable addition to our list. Much care should be taken to find out its true character in that respect. I cannot avoid feeling very great doubt concerning its claims to enter our list. Did the finder get many specimens? I am sorry to say that there is only one little specimen (from Tayinloan) of the new *Eleocharis.* I have carefully divided it, and shall return the better half to you. With

it was a bit of *Scirpus pauciflorus*, so exactly like it, that a careful examination alone shewed that they were so totally different in their true characters. The Tayinloan specimen fastened down on your sheet is *S. pauciflorus*, and is there named *S. multicaulis*. Are you sure that you have no other specimens from that place? Let the Botanical Society Herbarium also be examined to see for specimens or duplicates from that district. Probably you have preserved your Journal of that excursion, and might by looking into it, find out the place, near Tayinloan, where you gathered the plant then called *E. multicaulis*. Do take some opportunity of doing so, and inform me. I enclose a copy of the character which I have drawn up for the new *Eleocharis*, and shall probably enclose a paper upon the subject in your parcel when it is returned to you. It may however be a few weeks before I do this, as I should like to learn any further information that you may be able to obtain (as is above suggested) before doing so. I also hope that I may be able to add a few specimens to the packet which may be acceptable to you, as I am upon the point of forming several sets of specimens to go to the continent. I wish that you had thought to put the printed specimen of *P. fennica* into the parcel, but shall look forward still to obtaining it at a future time. I am told by Stratton that Henslow writes him information incidentally, that he is preparing a new edition of his "Descriptive and Physiological Botany" for Longmans. I am curious to see what he will make of it, as I presume that Longmans will not wish the book to be made any longer than it now is. He hopes to have it ready, Stratton tells me, by May. When is your book to be published? [*Unfinished*].

To William Borrer, Esq.

St. John's College, Cambridge, *Mar.* 10, 1852.

My dear Sir,—I have lately felt just as you tell me that it has been with you, namely, that it is indeed long since I have had a line from you. Although you say nothing about it, I hope that I may conclude that you are in good health, and that Mrs. Borrer is in the same state. I did not make any discoveries last summer, or you would have heard of them; nor did I obtain any specimens that seemed likely to be of much interest to you, or I should have sent them. I spent some weeks in Pembrokeshire, making a list of the plants of the southern half of that county. That I have sent to Mr. Watson for the 3rd volume of his "Cybele," now in the press. I have also drawn up a sketch of the distribution of the *Rubi* for the same volume. It has given me much pleasure to find that most of the forms or so-called species of that very intricate genus are now known to grow in very many parts of the country. I will see Mr. Stratton, the Curator of our Garden, immediately, and tell him to send a root of *Rubus Leesii* to you, as you desire. The plant has grown beautifully in our loose, gravelly,

and well-drained soil, and spread very considerably by the roots,—far more so than *R. Idaeus* does. We have many of the others growing well from seeds, and hope that most of them will flower in the next summer. *R. pyramidalis* did so in a very characteristic way last summer. Should you desire to have any of them, the Curator would probably be able to let you have them another season. And now let me also ask for something. Several years since you sent me seedlings of *Thlaspi alpestre* and *T. virens*. They did not do well, although they flowered, but the seed from them has not come up, and the original plants perished. Could you send me seeds of them, as I wish greatly to have them in the Garden? I hope that you do not adopt the changes of name proposed for the ferns by Mr. Newman, I think them unnecessary, as far as I am at present informed. I have a specimen of the *Polypodium alpestre* gathered by Mr. Watson on Ben Alder, and given to me by him as a state of *Athyrium filix-femina*. I passed it over as perhaps that plant, but imperfect and undeterminable. It is however quite distinct, Mr. Watson has it from one or two other places in Scotland.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *May* 8, 1852.

Dear Balfour,—I shall send off in a very few days the parcel for you, containing the specimens of *Eleocharis* and *Scirpus*, and the *Hieracium*, which you kindly sent for my inspection in the past winter. I have already written to you on the subject of them, and so need not now repeat what has been already communicated. I hope that Mr. Kirk will find the *Hieracium* again, and have the liberality to furnish me with a specimen, as I wish that my herbarium should include all these doubtfully-indigenous plants, as well as the true natives. I enclose in the parcel the short paper that I have written for the Botanical Society upon the new *Eleocharis*. May I express a hope that some of your zealous botanists will visit Tayinloan and refind the plant, for it is far from being satisfactory that a supposed *new* species should rest upon three bits of one (?) specimen. Your "Class Book" seems to be nicely done, *i.e.* as far as I can judge by only opening the pages here and there. Henslow uses it in his lectures, but says that he has detected a few blunders. It would indeed be wonderful if he could not. I fear that you may think that I have done wrong in breaking the specimen of *Eleocharis Watsoni*, but must assure you that what I have retained has only one spike and a single detached fruit, so that what I return is by far the better half. I have also put into the parcel a few specimens that I think may be acceptable to you.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Aug.* 12, 1852.

My dear Sir,—I return the specimens, as I deduce from your letter that you wish me to do so, although you do not exactly say so. I have examined them carefully, and marked them as I think that they ought to be named. *Hieracium caesium* is a very common plant, and very variable. You should look for *H. murorum* on the wooded slopes of your limestone hills. The *Epilobia* are rather difficult if we attempt to separate *E. Lamyi* from *E. tetragonum*. The former has I fancy shorter leaves than the latter, and their petioles are very much more decided than is the case in your plant. In *E. virgatum* the seeds are ovate and acute at their base; in *E. tetragonum* and *E. Lamyi* they are oblong-obovate and rounded at both ends. I am rather amused at your defending yourself for mentioning to me the opinions formed by Messrs. Borrer and Watson concerning the Willow. The opinion of the former upon any plants, and more especially the Willows, has very great weight with me. I always feel doubtful of an opinion when I find that he has arrived at a different one concerning any species.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 6, 1852.

My dear Sir,—I have examined the plants and return them to you. I shall always have pleasure in doing so, when you may desire it. I think that Godron would have called the Ranunculus, *aquatilis*, but fancy that it may possibly be different from the true plant of that name. It is not *peltatus*, as I at first thought, and would I think be called *heterophyllus* by Fries. I do think that *Ranunculi* vary much in luxuriance in different situations. I shall be much obliged by the gift of any *Batrachian Ranunculi* next summer. The *Melampyrum* may be a connecting link between *M. pratense* and *M. montanum*. I do not know of any other species with which to place it. You should study it carefully, and draw up a description from fresh specimens. I have marked what I think of the *Thymes*. It is not easy to tell the species apart in imperfect dry specimens. They seem to me to be quite distinct in nature. I see that you are also discontented with the "Phytologist." There are many in the same condition, but it is most difficult to form any plan for meeting that dissatisfaction. The "Gazette" did not pay within many pounds of its expense; but I cannot help thinking that if it had been continued, it might have been made to pay ultimately. The fact is that many said that they wished it to go on, but very few would take active measures to secure its success. Henfrey could not be expected to go on at a large annual loss.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. Balfour, M.D.

St. John's College, Cambridge, *Feb.* 22, 1853.

Dear Balfour,—Please to look in the Bot. Society's Herbarium and see if there is any *Hypericum Androsaemum* from Isle of Arran, Buteshire; or without the latter word, and perhaps from the Irish Isles of Aran. I strongly suspect from the way in which the station is given, that it is a Botanical Society specimen, to which Reichenbach refers ("Icon. Fl. Germ." vi., p. 70) as the *H. grandiflorum*, or as Bertolini calls it, *H. anglicum*. Look also at "English Botany," 122—5, and tell me what you think of it when contrasted with your Irish *Hypericum*. What is your opinion about the indigenous character of the Glanmire plant, and did you see it in other places? Had it the smell of *H. hircinum*? and do you think that it can be a variety of that species? I send a *new* manuscript to *take the place* of the part headed *Hypericum* in that formerly sent. Will you consider the subject of it (and the other parts of these papers), and give me your opinion upon anything that may strike you—or, append a note to go with my paper? I have carefully examined your plants, and put a mark with a pencil upon the papers of those that will be returned. Also I enclose notes upon the Irish specimens kindly given to me.—Yours very truly, Charles C. Babington.

Of course my paper may be read in as many parts as you please.

To William Borrer, Esq.

St. John's College, Cambridge, *June* 6, 1853.

My dear Sir,—The specimens are very acceptable, and still more the letter; for I had taken it into my head that you were ill, and am rejoiced to learn, under your own hand, that such is not the case. The specimen of *Ranunculus tripartitus* with dividing leaves is highly satisfactory, as shewing that plant's capability of providing "submersed" leaves with us as well as in France. I am much obliged for the specimen of *Chara prolifera*.* Newbould found it between Creeke and Burnham, Norfolk, in 1851, but neglected to preserve many bits. I enclose a bit of *C. polysperma*,† but am sorry to say that I have none (duplicate) of *C. crinita*. Your account of the prospect of the "E. B. S." is very unsatisfactory, although not different from what I had expected. If a work does not pay its expenses, we cannot hope for its continuance. It is wonderful that that work should not do so. I am not inclined to separate the English *Ran. Drouetii* from *R. trichophyllus*, and Newbould I think has come to the same conclusion. The name of *pantothrix* given by De Candolle was intended to include a great number of different things, and applies, I believe, more especially to the true *R. aquatilis*, when flowering without any floating leaves, as is often the case. Bertolini's description appears more applicable to that than to our *trichophyllus*. There is some error concerning the furrowed fruit-stalk I suppose. The globular receptacle will perhaps distinguish

* Now *Nitella pr.* † *Tolypella intricata* (Leonh.)

my *R. trichophyllus* from *R. aquatilis*, which has a conical one. I have no present prospect of obtaining a specimen of *R. peltatus* for you, but will bear it in mind. I strongly suspect that there are even two included under that name. They both differ from *aquatilis* by having the sides of the lobes of their floating leaves rounded; whilst the same parts are nearly or quite straight in *aquatilis*, and also far more deeply divided, indeed often quite separated into wedge-shaped stalked leaflets. In *peltatus*, and the other supposed plant, the lobes are never (I think) separated to their base, and if they were so, they would be triangular obovate, not wedge-shaped. Also the leaves of *peltatus* have large few terminal crenations, never being acutely cut as are those of *aquatilis*. They are a most difficult tribe of plant, and those who combine them all, save themselves from much vexation and trouble. But then that is not the mode to promote science. I do not possess continental specimens of *R. confusus*, and it is therefore quite possible that our plant may be wrongly named. The stamens do seem (at the opening of the flower) to be shorter than the pistils, but not so afterwards. I wish you a pleasant time at the Lakes, and hope that you will take care not to overwork yourself.—Yours very truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Sept.* 22, 1853.

My dear Sir,—I have this day received the very acceptable specimens of *Rosa hibernica* from Cumberland. I presume that this is the first occasion of its being found in England. I have recently learned that the *Potamogeton* which inhabits the canal at Bath is *P. flabellatus*, and also that it is plentiful in the ditches to the east of Hull. As we detect its more extended range in England, it becomes more and more interesting to learn what may be its name on the continent. In all probability it is included in *P. pectinatus*. I have been attending recently to the *Arctia*, and find that I have given Smith credit for far too little knowledge of them. His *A. Bardana* is the *A. tomentosum*, and plentiful in this county; his *A. Lappa* is the *A. minus*. The *A. majus* (a common English plant) seems to have been unknown to him, or confounded with *A. Lappa*. *A. intermedium* (Lange) is the *A. minus* of Berwickshire. In addition to these there is a possibly new one allied to *A. tomentosum*.—Yours very truly, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Oct.* 28, 1853.

My dear Sir,—I have hunted in all the places that occur to me as likely to afford information about your *Cichorium*, but have not succeeded in obtaining any name for it. Of course it is an exotic,

or at least from the European continent, and therefore may have come from some very distant spot. I presume, as you say nothing on the subject, that you have not succeeded in finding out the place from which the clover-seed was obtained. That seems to be our only chance of tracing the *Cichorium* to its country. Would it not be well to transplant a few of the plants into your garden, and so try to obtain seeds to continue the species with us? If you learn anything about it, I shall be much obliged by your informing me of it. I have not done much this summer, except making lists of plants for the projected "Flora of Cambridgeshire." *Arctium* seems to include more British species than we have usually supposed. We appear to have the

(1) *A. majus* = *L. officinale* (*Reich. Icon.*)
(2) *A. tomentosum* = *A. Bardana* (*Sm. E.B.*)
(3) *A. intermedium* (*Lange and Reich. Icon.* xv. 812.)
(4) *A. minus* = *A. Lappa* (*Sm. E.B.*)—

and there may possibly be one or perhaps two others which do not well fall into either of the above. The shape and proportion of the florets afford good characters I think. I have determined that the *Potamogeton* that grows abundantly in the canal near Bath is *P. flabellatus;* have found the same species near Denver in Norfolk, and Newbould gathered it lately near Hedon in Yorkshire.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Dec.* 31, 1853.

My dear Sir,—I think that you will like to learn that the station of the *Alchemilla conjuncta* (Bab.) is quite sufficiently wild. It is on the lower slope of one of the most rugged mountains near the head of the Glen of Clova—certainly never was or could have been a garden. This is my idea of the spot described to me by Mr. Black, and of which (*i.e.* the mountain) I have a pretty clear recollection. No doubt Don may have planted it, but that I, for one, do not think. Where could he have got the roots? All the Botanic Gardens know it as having been originally received from *him.* It grows at a similar elevation, namely, about half-way up the mountain in the Faroe Isles, and is known in no other country. I have no doubt that my friend Mr. Tyacke, of Chichester, gathered it in Arran, for the specimen that he gave to me is it, and it may be quite local there. I think that our friend Arnott is rather too hard upon Don. In my opinion he made mistakes, but I do not think that he intended to cheat. The *Diervilla* does not grow upon "the site of an old garden," as I understand its station, but in an extensive range of plantations made somewhere about eighty years since in a wild district, although within a mile or so of a gentleman's residence. I think that Mr. Black might well think the plant wild (it was Lindley who declared it a native), for he probably knew nothing of the house. I do not

think that Reichenbach's figure represents our *Potamogeton longifolius*, and have not quoted it as such accordingly. Mr. Kirk's plant has not the true structure of the leaves of Ball's plant, and I do not know what it may really be. I have seen the leaves only. I shall be glad to learn the results of the cultivation of the *Cichorium*.—Yours very truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Jan.* 23, 1854.

My dear Sir,—I am much obliged to you for your letter. Fries' own specimen of *Potamogeton sparganiifolius* is not really *caule simplissima*. I shewed the two plants to my relative, Churchill Babington, and he thought it was probable they are of one species. I shall endeavour to visit the place where Mr. Kirk found the plant next summer. The flower-spike is not known to me. Mr. Hort has gathered what he supposes may be *Epilobium Lamyi* in Devonshire, and I have specimens for examination, but have not yet done so. I am not ready to admit the theory of a hybrid origin without pretty good proof, for I do not believe in much hybridity amongst *wild* plants. If I arrive at any result on this subject you shall be informed of it.—Yours very truly, CHARLES C. BABINGTON.

To the same.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Feb.* 18, 1854.

Dear Sir,—Many thanks for the extract from my friend Dr. Tyacke's letter to you. I learn from it that by continually questioning him about the *Alchemilla conjuncta* we have led him to doubt about it. When I was with him last summer he had no doubts on the subject, and I see no reason against his having gathered the plant in the place where he has always believed that he did find it. The head of Glen Sannox is, as I think that you know, a very wild and not easily searched place, and there may well be a large patch of it there, and no one happen to pass over it. The Clova station has been passed year after year by Edinburgh Professors and pupils in great number, and yet it was not seen until Black happened to meet with it. Unless G. Don planted it in Clova (which I do not believe to have been the case) it doubtless is a native there—and why not in a similar spot in Arran? The head of Glen Sannox ought to be well examined, which it has not been. I have received one of the Guernsey specimens of *Ophioglossum lusitanicum*. So small a plant may have been overlooked in Devon or Cornwall, or especially in Cork or Kerry. We had a heavy snow-storm last night.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. Balfour, M.D.

St. John's College, Cambridge, *Nov.* 28, 1854.

Dear Balfour,—As you may like to have Mr. Carroll's remarks in answer to a recent letter from me concerning the supposed *Hypericum anglicum*, I append them to this note.—Yours truly, Charles C. Babington.

Extracts from a letter from Isaac Carroll, Esq., *of Cork.*

In the first place he states that the *Hypericum* in question was certainly not known as naturalized to Dr. Power at the time of the publication of the "Flora of Cork County" (1845), which I may remark is a very complete Flora, in which "he was particularly careful to omit nothing that could by any possibility be considered a native or even naturalized, however imperfectly. Dr. Balfour is right in considering *H. anglicum* [of Bab.] a perfectly naturalized plant, but until I see it growing in less suspicious localities, I should not like to pronounce it a native. A single plant grows on an old wall in Shaw's place at Monkstown, but although there is no modern garden from which it might have escaped, yet the wall is close to an old castle and burying ground, localities always famous for doubtful species. My own conviction (from present knowledge) is that *H. anglicum* originally escaped from cultivation, and is in the same predicament as *H. calycinum*, *Vinca major* and *minor*, *Hesperis matronalis*, *Iris pseud-acorus*, and *Sambucus ebulus*; none of which I have ever seen in this neighbourhood, but in what have been gardens, shrubberies, by cottages, or old castles." To me this seems conclusive as to its claims to be considered as a native at Cork.—C.C.B.

To the same.

St. John's College, Cambridge, *Dec.* 8, 1854.

Dear Balfour,—I return your specimens with thanks, but much fear that they have suffered some slight injury on the journey. They have interested me greatly, especially as I obtain from them two Scottish and one Irish station for the plant that I believe to be the *H. anglicum* of Bertolini. The calyx of this plant must surely be sufficient to separate it from *H. hircinum*, to which it seems to be the most nearly allied. I judge from your specimens that the capsule is rather acute, differing more in shape from that of *H. Androsaemum* than Bertolini appears to have supposed. Sowerby's figure ("English Botany," 1225) represents a form just like that presented by your plants, and also shews that the styles are liable to break off at a short distance from their base as has happened on one or more of your capsules. I see no reason whatever to doubt that that plate is intended to represent the *H. anglicum*, and that it cannot be justly quoted to *H. Androsaemum*, as all authors previous to Bertolini have quoted it, and as Smith's description would lead

us to believe that he intended. There are several instances of Sowerby's plates not being just what Smith meant. I trust to the artist in such cases with much confidence. Please to *return my paper* to me after it is read, in order that I may make any desirable changes before it goes to press.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *Feb.* 24, 1855.

Dear Balfour,—I have advised a young friend of mine, a member of the Edinburgh Botanical Society, to send to you a paper that he has drawn up concerning the plants of a part of the West of Ireland. His name is More, and he is a student of Trinity College here; he knows a good deal about plants, and takes great interest in them. His paper may suit a meeting of the Botanical Society, and an abstract of it may then go into the report of the meeting. The latter need not be long, and you will perhaps find a few minutes to mark such parts of the paper as seem to you to be deserving of abstraction for publicity. We have not had so long a frost here for many years, and as the temperatures have been very low, I much fear that we shall have a repetition of our losses of last winter. Our new plant houses are acting very well, and there is a singularly great improvement in the appearance of the plants since their removal into them.—Yours truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

CAMBRIDGE, *April* 9, 1855.

My dear Sir,—I am sorry that I omitted to inform you about Griesbach's paper. I however think it is hardly worth your getting, being short, and written in the German language, with the exception of the very short Latin definitions of the sections, and of a few of the species. It is in "Botanische Zeitung von Mohl," 1852, No. 49. I wish that I could give you either the *Hyperica* or the *Arctia* at the present time. I shall try to get them for you. I should like to learn from you about the two forms of *Vicia bithynica*. For I know very little about them. I have just written to Dr. F. Schultz, and as he is to send me some plants soon, I have asked him for the *Epilobia Lamyi* and *virgatum* of Godron. I hope that I shall get them. I have just had a letter from Fries. He says that he hopes in the course of the summer to revise and consolidate and add to his three "Mantissae"—and publish them as one volume. I hope that he will do so, and that I may get an early copy. For, to my mind, there is no writer upon European plants at all comparable with him.—Yours very truly, CHARLES C. BABINGTON.

I hope that you are to be photographed when in town, like others of the Linnaean and Royal Societies. I have been asked, and complied.

To the same.

CAMBRIDGE, *May* 4, 1855.

My dear Sir,—I return Mr. Woods' letter with thanks, but do not receive so much information from it as I had expected. Are you inclined to believe that hybrids are usual, or not unfrequent in *Epilobium*? If they are, the *E. virgatum* may be one, and we are relieved from much difficulty. But I certainly tend to join in the opinion of Fries, that the calling a difficult plant a hybrid is usually a careless way of escaping from difficulty. I am certainly very far from being satisfied about *E. virgatum*. The Linnaean specimen has the authenticating marks as *E. tetragonum*; nevertheless, I believe that he had the true *E. tetragonum* (E. adnatum) in view when writing the "Sp. Pl." ed. 1, and that he placed the wrong specimen in his herbarium afterwards. I wish that he had known how much value and confidence would be placed in his herbarium; for then it would probably have really been the authority that people have endeavoured to make of it. Schultz's address is, Dr. F. Schultz, Wissembourg, France. I presume that he does not quote "English Botany" from not having access to the book. I suppose that Salter has informed you that he has some idea of recommencing the "Suppl. Engl. Bot." I hope that he may be able to do so.—Yours truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

ST. JOHN'S COLLEGE, CAMBRIDGE, *July* 11, 1855.

Dear Balfour,—Have you changed houses, or is the place marked at the head of your letter accidental? The *Carex* presents no cause for doubt. It is *C. Oederi*. I am sorry to say that I have a slight remembrance of receiving two *Hieracia* from you; that they troubled me, and that I either sent or intended to send them to James Backhouse for his opinion upon them. As I can find no trace of them, I fancy that the last idea is a fact; and as he is just married I do not wonder that no notice has been taken of them as yet. This is unfortunate, but you must be so kind as to excuse it. I have no doubt that you will spend a few weeks in Switzerland with much pleasure. Unfortunately I cannot get far from home, as I have to be in South Wales in the latter part of August. I trust that we shall meet at Glasgow. Curiously enough Arnott writes in the same manner to me, telling me that my Manual is "the book for people who wish to get a knowledge of the critical species, and is therefore the book I would myself take with me if I were making an excursion to the highlands or to a district new to me." He is an excellent fellow, but it is somewhat odd to find him writing this to me, and in the same letter remarking that "Fries, Koch, &c., idled away their time in catching at shadows." Also

that "natural orders are but enlarged genera, genera are but collections of species, species of varieties, and varieties of individuals." Thus leading me to suppose two things (1) that I am idling away my time in that smaller proportion that the value of my work holds to that of Koch, Fries, &c., (2) that there are no such thing as species in nature—all are individuals. I do not really think that he means either the one or the other, but so it reads. I have done what is now become rather a wonder, lately, viz. :—added two species to my local "Flora of Cambridgeshire": *Herniaria glabra*, and *Alyssum calycinum*. I gathered *Phleum Boehmeri* and *Hypochoeris maculata* last week. I trust that Mrs. Balfour is well.—Very truly yours, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

CAMBRIDGE, *March* 21, 1857.

Dear Purchas,—I am very much obliged to you for remembering my wish to have seeds of *Euphorbia stricta*. They will be sown immediately. I can give no satisfactory account of the *Epipactis*, for you know it was far too much advanced in seed. Backhouse agrees with me in naming one of the *Hieracia lasiophyllum*, and the other *pallidum*. I remember nothing about the *Parietarias*, but am inclined to think that the supposed two were there, and that they are really only one species. I have long been tending towards this view, but have not yet quite arrived at it. I hope, with what you so kindly say is your wish, that nothing will happen to prevent my visiting Teesdale with you in June next, and have no reason to contemplate any difficulty arising. Hayward is here, and he tells me that the college separates at about June 20. Probably, therefore, at about that time will suit for our trip. I am half inclined to visit Durham for a day or two before Hayward leaves, if that should suit with other things. I have lately been working, as far as many engagements will allow, at an elaborate essay upon *Rubi*. It is my hope soon to have gone through all our species, and prepared MS. upon them, but shall not print anything until after at least one other autumn. Several names must be changed, and several plants grouped differently. I have now an enormous collection of them.—Yours most truly, CHARLES C. BABINGTON.

To WILLIAM BORRER, Esq.

CAMBRIDGE, *July* 10, 1857.

My dear Sir,—Through carelessness I have posted a letter for you with Hurst Green as the head office. It will perhaps reach you, notwithstanding. If not, it will not much matter. It treated of the *Epilobia* which you sent to me in a young state. Notwithstanding the difference in the hibernacula, I cannot now find that the new one differs in any considerable degree from *E. obscurum*. Please to look

at your growing plants of them. This is the first news that I have received of the *Gladiolus*. Will you be so kind as to send me a note concerning it, and I will have it put into the "Annals." I see that Godron (v. 3, p. 247) joins *G. imbricatus* with *G. palustris* of Gaudin. Or rather the true *G. imbricatus* is not found in France, although it seems to be German. Have you examined the new plant comparatively with the former? Do you think that the finder could be persuaded to send a specimen to me? Sturm figures the stigmas of *G. imbricatus* [something in this way, *i.e.*] very much enlarged at the end. I am sorry that I have neglected to send the batrachian *Ranunculi* to you, but will send them in a few days, when I can place my hands upon some good specimens. The Shirehampton plant I presume is *Baudotii*. I find in this county (1) *heterophyllus*, (2) *trichophyllus*, (3) *Drouetii*, and (4) *floribundus*, but have seen no trace of the others. The fine green of *Drouetii* points it out from *trichophyllus* at a glance, when both have become moderately familiar to the eye. I can send living plants of (2), (3), (4), and *peltatus* and *confusus*, I believe, if you would like to have them. *Peltatus* has lately been most beautiful in the Botanic Garden, grown in a broad flat pan about three inches deep, with earth at the bottom and water above it. The top of the pan was covered with a sheet of large white flowers. Stratton does not, I believe, want the plants at this season, and that is his reason for not sending a list in accordance with your kind wish. Please to remember me most kindly to Mrs. Borrer, etc., and believe me to be, most truly yours, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *July* 16, 1857.

My dear Sir,—It is indeed kind of you to send the spike of *Gladiolus* for me to look at. I shall venture to keep it for some little time, and will then return it to you—safely I hope. The name which it ought to bear has puzzled me greatly. At first I thought that it could not be *imbricatus*, and might be *palustris*, but now I doubt very greatly concerning it. The lower lateral petals seem to be very blunt in your plant, and decidedly shorter than the rather acute (certainly pointed) lowest petal—this is nearer to the structure of *imbricatus* than *palustris*. The stigmas more resemble those of *imbricatus*. I want to know the character of the coating of the root (*see* Woods' "Tour, Fl." 358) and the mode in which the buds are arranged in the young spike (*see* Reich. figure table, 351, right-hand side). All the buds, except the uppermost, are hidden by the upper leaf (?) and lowest bract. Sturm figures this structure better, and contrasts with it the state in *imbricatus* and *communis*, where there is no such concealment of the buds. The capsule also is in favour of *imbricatus*. I shall delay sending any notice for publication until I learn from you if you can decide the above points, and have settled the same to your own satisfaction. It was kind of you to remember

me when asking Mr. Lucas to dry some specimens of the *Gladiolus*: who is he, and where does he live? The *Epilobia* puzzle me exceedingly; for, really, I can see no difference between the growing plants of *ligulatum* and *obscurum*. The top of the stem does not nod with me except with accidental causes, and then quite in a different manner from the state seen in *palustre*. I cannot avoid the fancy that the plants called *ligulatum* are not constant either in that or the runners. The seeds of my plant of *ligulatum* resemble those of *obscurum*, except in being rather longer; they are not at all like those of *palustre*. I am sorry to learn from Stratton that he has not got *Cornus suecica*; I forgot to ask about the *Marsilea*. I must delay sending the living Batrachians until I can go a few miles into the country to get *Drouetii*; for the lot which I brought in lately has been eaten up by water-snails, or otherwise destroyed. *Peltatus*, *confusus*, and *caenosus* are growing in my rooms. Stratton and I would be very glad of a bulb of the *Gladiolus*, if Mr. Lucas could let us have one to grow in our Garden.—Yours most truly, CHARLES C. BABINGTON.

I am sorry that I have not a better set of specimens of Batrachians to send. These are the best that I can get.

To the Rev. T. A. PRESTON, *The College, Marlborough.*

CAMBRIDGE, *Feb.* 23, 1858.

Dear Preston,—I am desired to thank you for what you have done for the Insect Collection, in the name of the Philosophical Society. I have also written letters of thanks to the men mentioned in your letter to me, in the name of the Society.—Yours truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq., *Bembridge, Isle of Wight.*

CAMBRIDGE, *May* 4, 1859.

Dear More,—I have mislaid your letter which accompanied the "Catalogue." It ought now to be the business of the botanists of your Isle to fill up the vacancies in the herbarium, so as to make it complete for the district. I am surprised to see that there are so many plants wanting. I have been sorry not to be able to visit the island, as you so kindly wished. But it could not be. You should dry a few good specimens of *Arum italicum* this season, so as to be able to place a complete set in the Linnaean Society's Herbarium. Newbould and I much want to see the petals of *Cerastia*, especially of *semidecandrum*, *tetrandrum*, and *pumilum*. I have *C. pumilum* growing from seeds produced by Townsend's plants last year, and so hope to be able to see its petals again in due time. *C. tetrandrum* we have no chance of, and *C. pumilum* is

very rare with us in Cambridgeshire. Could you, when they come into flower, without much trouble, get a few specimens of the two latter plants, and send them to me in a little tin box by post? If you can, it will be a great kindness done. I am glad that you contemplate a "Pocket Flora" of the Isle; you will do it well, and it will be useful, although it may not pay. I am now getting the materials for my "Cambridge Flora" into order, so as to publish next year. I am tracing each plant to its first authority in print, and find it rather a troublesome business.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *May* 10, 1859.

Dear More,—The box and letter came by same post yesterday, and I have much reason to thank you for so promptly attending to my wishes. I have just been examining the flowers, and fancy that *C. semidecandrum* has petals without ribs or furrows; and *C. tetrandrum* has five rather strong ribs; but not furrows like those of *C. triviale*. Why should not you look into these questions? I think I sent a copy of my paper about *C. pumilum*, and if you look at page 2 of it, you will see what requires to be done. My *pumilum* in a pot has not yet shewn flower-buds. Suppose that you examine these allied plants, and draw up minute accounts of them—my description in the paper may give some idea of what I mean. I shall keep the *Arenaria* for Newbould to settle when he returns from Sheffield (where he is gone to vote), as he knows all about Lloyd and Jordan's plants, and I do not. I have just been rather amused by reading Broomfield's account of *tetrandrum* and *semidecandrum*. His *tetrandrum* may include the true plant, but I think not. Smith best knew the "little tetrandrous plant," which is a state of *semidecandrum*. I much suspect indeed, that, until I published *atrovirens*, English Botanists had almost as completely lost sight of *tetrandrum* as they had of *pumilum*. We may thank Smith for much of this neglect. I also think, as you seem to do, that Broomfield had no knowledge of *C. pumilum*. He might well think that there were not differences between plants, when forms of one species were made to represent three—two being unknown to him although he thought that he had them.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 7, 1859.

Dear More,—I ought to have acknowledged your interesting letter long before this time, but have had other things to do, and so neglected it. I have now got the *Cerastium pumilum* flowering from seeds obtained from Torquay plants last year, and grown in a pot. You have shewn successfully that there are ribs on the petals of all our smaller species, and I am much obliged to you for so doing.

It corrects a slight error into which I had been led. It is curious that the petals of *C. semidecandrum* should be so different from those of the others. I need not trouble you for the descriptions of the species. The making of them has been doubtless of much use to you. I wish that you could persuade Newbould to do such work, or, as he would say, attempt it. The foreigners say that *C. pumilum* (their *C. obscurum* and *C. litigiosum*) has five to ten stamens. I will look closely after the stamens in my plants as the flowers open. The central stem is often much extended when the plant is well watered. I have not specially examined the seeds, and do not expect much from them. I fear that I shall hardly meet you in town, as I am very unlikely to be much there at present. I have nevertheless some idea of attending at the Linnaean on the 16th instant.—Yours most truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

(NO DATE AND NO BEGINNING TO THIS LETTER.)

. . . support, for I now see no chance of any nice journal being put in its place. The "Phytologist" is indeed very poor, and not likely to mend. As Watson told you, an "Annual" is not likely to pay its expenses, and therefore, not likely to be started. Look to the *Papaver dubium*. Our Cambridge plant seems to be the *modestum* of Jordan (see Boreau), and one found near Chippenham, in this county, the *Lamottei* (Boreau). I believe that the latter is the true *dubium*, and the former distinct, but am not yet quite sure. Look to the *petals* and the juice amongst other things, such as the shape of the capsule. It may be long before I get the plants from the Linnaean, as I am not likely to call there soon. I thank you greatly for them, and expect much pleasure and advantage from their examination, especially the troublesome *Ranunculi*. The *Papavers* seem to establish themselves securely in hedge-banks and waste spots here —not confined to the cornfields, as some say. I saw *Apera interrupta* at Chippenham, Cambridgeshire, a few days since, in its old station abundantly.—Yours very truly, CHARLES C. BABINGTON.

It is to Newbould I owe my attention being called to the poppies, as for many other botanical observations.

To the same.

CAMBRIDGE, *July* 14, 1859.

Dear More,—You will not wonder that these poppies present much difficulty to me. Notwithstanding what some people say of me, I often find it very difficult to convince myself that plants are distinct, and in this case have not yet quite done so. Doubtless the time was when I should not have hesitated, but I have become more cautious as I have got older, and had the fear of C. and Co. before me. I think, however, that it is exceedingly probable that we have

two species called *Papaver dubium* here, or at least two very well marked plants. These names are somewhat difficult to determine. I call them *P. modestum* and *P. Lamottei*. Newbould considers my *P. modestum* as *P. Lecoqii*. Boreau's descriptions are not as satisfactory as could be desired. He omits to state the character of parts in one plant which he seems to consider as affording the distinction of another. Thus, he does not tell us the colour of the juice of *modestum*, although he found much upon it; in *Lecoqii* and *Lamottei* he does not state the relative length of the stamens and pistils of *Lecoqii*. In short, I do not see any mode of being quite sure of our plant belonging to one of his plants rather than the other. Nor can I make it out by Jordan, or by Lloyd. The petals of our plant are those of *modestum*, so is, apparently, the stigma, and, I think, the capsule, "rétrécie seulement dans sa moitié inferieure" and "subitement rétrécie à la base." The stamens are those of *Lecoqii*, and perhaps also the juice. I will now try to convey to you an idea of the shape of the capsules. *P. Lamottei* has petals nearly of the shape of those of *P. Rhoeas*, but, I fancy, always much paler. Its leaves are, in my specimens from Chippenham (Cambs.), much less divided, scarcely pinnatifid, whilst those of *modestum* are *bi*-pinnatifid. Remember that the petals have to be taken from a vigorous plant (*Rhoeas*, when starved, has wedge-shaped ones). I think the spot is variable. I find it slightly in *Lamottei*. Of this, all I know of the juice (for certain) is that it does not turn yellow. My belief is that it has very little colour. Armstrong lives in Green Street, just opposite the Union. —Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Sept.* 8, 1859.

Dear More,—I did not receive your letter in time to write about the Channel Islands, but as you seem to have gone with non-botanical people, it is perhaps of little consequence. I fear that you will have found little time to do much in such company; much botanically I mean, for doubtless you have seen the beauties of the islands, and had a pleasant trip. I could not however have helped you, for I have not been there since my book was written, and therefore it contains all the hints that I have to give. Also the time of year is very late for the plants of the islands. I fear that next to nothing, except *Rubi*, remain in perfection, and you will not have had time (if inclination was present) to attend to them with success. Newbould hints concerning the Poppy-hunt, that you may not have remembered that all the *P. dubia* cast their petals very early in the day, and that therefore they may be more abundant than you suppose. Their flowers fall very early indeed, very different from *P. Rhoeas*, which retain their petals quite through one day, and perhaps longer. I do not think that more than two of the French

species have been detected in England. One I think is certainly *P. Lamottei*, and the other may very probably be *P. Lecoqii*, although I have some little doubt about the true name of the latter, owing to the petals not agreeing. I wish that we could have settled the question this season, but that is now quite impossible. I shall have to make what I can of our plants in my "Cambridge Flora" next spring,—leaving much in doubt. I have Snooke's little book, and have thought that he has received less credit than he deserved for it. I got it on my first visit to the island, as long since as 1829. I hope to start on Monday for the scientific meeting at Aberdeen. It will be too late for out-of-door botany, but I may perhaps do a little in herbaria.—Yours very truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

CAMBRIDGE, *Oct.* 16, 1859.

Dear More,—Your letters are always interesting to me—more so than they were formerly, for they shew much more accuracy of observation and judgment. I thank you for writing fully upon any points that may occur to you. My idea is that *Papaver modestum* may perhaps have yellow juice, and that Crépin may not be quite correct in his nomenclature. The capsule of my suspected *P. modestum* is oblong club-shaped, that is, not narrowing much until near the base, and constricted just at it, so that the actual base widens a little, but is still narrower than the torus. Its stigmatic disk is broader than the capsule, *convex-conic*, and *folds over the edge of the capsule* when young and middle-aged: ultimately it becomes *quite flat*, or even turns up a little at the edge. All the hairs on the peduncle are adpressed. Unfortunately, Crépin says nothing about the petals of which Boreau gives an account. My plant has them *obovate wedge-shaped*, and not overlapping each other, whilst those of Boreau's *Lecoqii* are orbicular and overlap, *i.e.* are like those of *Rhoeas*. If Boreau is correct, our plant can hardly be his *Lecoqii*—if Crépin is so, it can hardly be his *modestum*. I really do not know what to say in such a difficult case, and unfortunately, I must say something in my "Cambridge Flora" next spring. It is often very difficult to understand the French writers, for they do not take enough care to mention the same parts of characters in allied plants. If Boreau had told us definitely of what colour the sap of his *modestum* is, we should have had less trouble. Jordan is equally deficient in that respect. I am sorry that you had such unfavourable weather in the islands. Undoubtedly, Jersey is very far the most beautiful island of them all. If you have not got a copy of my "Primitiae," I will send you one. I thought that I had long since given one to you. I am sorry to say that I have lots of them, and that the sale is at an end, so one is quite at your service, or more if you want them. We had a grand meeting at Aberdeen, and I was well pleased that I went there, notwithstanding the long journey. *Rubi* are almost wanting near to that town. At Edinburgh I got a

few localities for them from the herbarium. On my way back I spent a day very pleasantly at York with James Backhouse. Lately I have been to Wisbech, with much advantage to my "Cambridge Flora." I now fancy that I am settled down for the winter. I believe that Newbould has got your *Arenaria serpyllifolia*, at least he lately told me something about an *A. macroclados* (I think he called it) in connexion with you. I hope that you will be able to read this unusually bad scrawl.—And believe me to be, yours ever, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

CAMBRIDGE, *Oct.* 14, 1859.

Dear Purchas,—I have much pleasure in doing all that I can to remove your difficulty relative to the *Ranunculus*. I have nothing exactly like it with floating leaves, but possess specimens without them (from the river Dove and from Coventry), which I think must be the same plant. I call them forms of the very variable *R. heterophyllus*, and to that I also place your specimens. It seems remarkable from its very much reflexed and tolerably persistent calyx. Boreau has several more supposed species which I cannot identify, and suspect are not your plant. I therefore recommend calling it a form of *R. heterophyllus* until we know more about the French plants. I am glad to learn that you are taking to the Brambles, and hope that you may succeed in understanding them. I expect that the prevalent species differ from those of some other parts of the country. I have got nearly all the materials for an elaborate monograph of *Rubi Brit.*, and should like some time to have the advantage of examining at leisure all your specimens, if only for the purpose of adding to my materials for the geographical distribution of them. This winter I shall be at work at the "Flora of Cambridgeshire"; after that I hope to take up the work on *Rubi* and print next winter. I had a pleasant time in Scotland, and should have had pleasure in returning by a round-about way if I could have seen you.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Feb.* 7, 1860.

Dear Purchas,—I shall be glad to look over the *Rubi*, and will carefully return them to you. Perhaps the best way would be for the parcel to come direct to me here by rail, as I shall not at all object to the expense of carriage. I suppose that now I shall have time to study them, as I have got over my duties as Geological Examiner, and nearly finished my "Flora of Cambridgeshire" for the press. I consider that *Arenaria leptoclados* is a good species. It is not in G. and G.* It is my *var. tenuior* of *A. serpyllifolia*. I fear that you will have . . . . to purchase a copy of Boreau's "Flore du centre de la France," ed. 3. Nothing can well be done

* Grenier and Godron.

in minute critical botany without it. I did not know that any one knew of *A. leptoclados* except More, Newbould, and myself. It seems quite certain to me that you will not succeed in getting any publisher to undertake a new Botanical Journal; for the risk of loss is almost a certainty. The "Botanical Gazette" has taught us that unfortunate fact.—Yours very truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

CAMBRIDGE, *Feb.* 13, 1860.

Dear More,—You must keep your friend more closely in hand, or he will run quite away with you: his enthusiasm is of so high an order. I cannot yet tell when the notice of "Bentham's Handbook" will appear. Francis rarely sends me word, unless there is some strong reason to do so. I have no doubt about the *Tritica*. I fancy that the Scandinavian *T. acutum* (Fries) has got a name, but am not sure. At any rate it does not now concern us, and *I* am never in a hurry to give a name, if I can avoid it. In this case we are not called upon to name the Friesian plant. I would not send the *Festuca* (Broteri) to Parnell until you can get it in good condition, and then send it fresh. He will be glad of unpublished grasses next summer, as he thinks of re-editing his book. He lives at 7, James' Place, Leith, Edinburgh. My "Flora of Cambridgeshire" is about ready for the press, and will, as I hope, be published in the spring. As I never expect it to pay its expenses, I have put in much that many people may think unnecessary, and left out talk which many of them would have liked. In short, I have looked more to pleasing myself, than propitiating the public. Newbould has already been "studying at Kew," and in the British Museum; and has not yet shewn any signs of ratting. What longer time may do, of course I cannot say. You will now have seen my paper upon *Fumaria* in the "Linnaean Journal," and probably decided for yourself relative to the Isle of Wight species. I have re-examined two of your plants, viz.: *Alverstoke* and *Ryde*; and continue to think that they are *F. confusa*. Soften some of the fruits-with-their-pedicels, and look at the "base." I am sorry to have to add that I cannot send to you a specimen of *Lepigonum marinum* β, for I have only one, and that fastened down in my herbarium. I should advise your not printing anything about *Lepigona* at present. If I can make anything out you shall know. I have long intended to work up the plants by Lindberg's Inaugural Dissertation, of which probably there is not another copy in England. Fries sent it to me. I hope to take this in hand very soon, *i.e.*, as soon as I can get the "Flora Cantab." quite ready for printing, and your plants (which came two or three days since) examined and disposed of. How shall I return them? Is Mr. Salway returning to the Isle at the end of this term, and shall I ask him to take them—or send them direct from London myself? —Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Feb.* 16, 1860.

Dear More,—I am glad to learn that you have so satisfactorily determined the *Festuca Broteri*.* You ask me if you ought to write a paper about it now. I should say, not till the plant has been again seen, and in a better state: then a short notice of it would be well for the Linnaean. I do not think that any one will anticipate you through such delay, as you and Bromfield have both called the plant a variety, a most safe way of keeping it out of notice. You will be able to give a far more satisfactory account of it after it has flowered next summer than you can do now. The fruits of *Fumarias* are so usually crushed and spoiled in herbaria that I am sorry to say that I have none that I can send to you. The few that I have are fastened down in my herbarium. Perhaps these rough and exaggerated outlines may give you some idea of them. You ask me about labels for the herbarium at Ryde. Why have them in Latin?—is it not rather pedantic when they will be read only by English people? "Herb., Bromfield; *Ran. repens* (Linn.); Ryde, Isle of Wight; date; collected by Dr. Bromfield, and given to the Ryde Philosophical Society by Miss Bromfield." "Herb., Bromfield; collected by A. G. More; given by A. G. More." The size should not be larger than will allow of the requisite information being written upon it. I do not know who wrote the review of Darwin—and if I did, I probably should not be in a position to tell you. I have no reason to think that it could be Hort: indeed, strong cause to think it was not. You can take the "Cybele" in hand if you like. Of course you know De Candolle's "Botanical Geography." Le Coq has a great work (ten octavo vols.) of a somewhat similar kind to H. C. Watson's on the plants of Europe. I fear that you will hardly see that. If you review the "Cybele," I shall venture to add to the article anything that may seem desirable to me. "Cambridge Flora" is gone to press—think of that!—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *March*, 1860.

Dear More,—I suppose that Newbould will continue in London for some time. As he had to leave us, he could not do better than betake himself to London until his matters are settled. How long that may take, he seems to have no idea; nor has he let me much into the secret of how they stand, and therefore, of course, I did not ask him. If he goes to study at Kew, it is my belief that he will be let quite alone, and that no one will discuss matters with him, but afford him all the facilities that he may want. He complains that in London he has no one to contradict him, and oppose his opinions.

* *F. ambigua* Le Gall, at first thought to be *F.* (or *Vulpia*) *Broteri* (*Journ. Linn. Soc.* v., 1861, p. 189).

I have been in the habit of doing that plentifully here. Bentham is not the first to combine all those *Cerastia*: Spenner did it in 1829, under the name of *C. mutabile* . . . it is the fact.—Q.E.D. I have received a lot more *Fumariae* from ——, but not yet had time to study them. Of course they are all bad specimens, and will give some little trouble. I hope to get to work at them in a day or two, and will inform you of the result. Do you know anything about *Populus alba* and *P. canescens*? If you do, I wish that you would enlighten the world about them. I do not at all understand them, except when I see the stigmas. How are we to know the male trees apart?—Yours truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

CAMBRIDGE, *Mar.* 19, 1860.

Dear More,—I hasten to answer the points which you have put to me, and desire to learn my opinion upon, immediately. I do not find that I have any *Euphrasia Salisburgensis*, or any other from Garry Land. I have what I believe to be it from the Great Isle of Aran. I have given up *gracilis*, and think that if we are to split here, we must take the French view of them, and have *officinalis* and *nemorosa* to correspond with Boreau's groups "Calice glandul.," and "C. non-glandul." I have not looked closely into the matter with Boreau's writings in view, and am not at present ready to go beyond the groups mentioned. This is Grenier's view, and I often prefer him and his colleague to later writers. I place *Salisburgensis* to *nemorosa* as he does. "*Statice*—headland in Clare on a spur of Burren, July, 1854," I place to *S. occidentalis*. If that is not the place, I know nothing of it. *Saxifraga hirta*. I so name your specimen from "Black Head, Burren, July 31, 1854." Mr. Carroll has sent it to me from the Hay's Glen, MacGillycuddy's Reeks. I have not seen it from Ben Bulben, neither does your specimen shew the petals. I have not apparently got *Carex paludosa-spadicea*, from Lough Gall, but have from Sandown. I recollect nothing about the other, nor can I find any note of it. I am sorry that my answers are so unsatisfactory. As you would see by my papers, I am very much inclined to join *Fumaria Boraei* to *F. pallidiflora*. I am inclined to think that your plant from Mr. Hamburgh is *F. Boraei*. I shall read over and pick holes in any manuscript that you may think fit to send me for that purpose. So do not scruple to send. There is no sort of hurry about the review of Watson. Did you tell Francis that you had one in hand for us? I would advise you to risk no money on your "Pocket Flora." If you can, I should advise your keeping it in your own hands. At any rate only give a definite edition, and have a writing to that effect.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *April* 7, 1860.

Dear More,—I certainly do think that your *Statice* from a "Headland in Clare on a spur of the Burren, July, 1854," is *occidentalis*. It has the lanceolate-spathulate leaves proper to that plant, and, when well-grown, the much-branched stems. I have it also from Howth. Also from "Sandy banks near the sea, Ballycotton, co. Cork, Sept., 1857, Mr. J. Carroll." It is curious that I have others, with the very same ticket, which I have called *S. Dodartii*; and also one from him gathered by Mr. Chandler at Tramore, near Waterford (I looked for it there without success). I now incline very strongly to the belief that these are *S. occidentalis*: in short, that there is no *S. Dodartii* in Ireland. What should you say to our being obliged to give it up for England also? I confess that my ideas tend that way: or rather I should say, tend towards the junction of the two plants as one species. I have now before me authentic French specimens of both plants, and certainly the specimens from Dover, Cley, Jersey, Alderney, Galloway (Scotland), Howth, near Dublin, Tenby, Anglesea, Glamorgan, and Pembroke, are *S. occidentalis*. They all have the narrower, perhaps thinner, and less abrupt leaves of that plant, as well as the more elegant, slender, and more upright spikes; also the inner bracts have a broad, scarious margin, which is usually (perhaps always) much tinged with pink at its junction with the herbaceous part, but white above. Notwithstanding your last remark about the leaves, I place this to your Burren plant (mentioned above), Mr. Chandler's Tramore plant, and Mr. Carroll's from Ballycotton. On the other hand I have one specimen which is certainly the true *S. Dodartii* (unnamed up to this day), from Portland Island, gathered in 1832 by Henslow, and given to me many years since. It agrees quite well with an authentic specimen in Billot's "Exsicc." (1054), from La Rochelle, and another also from that same place. It is a thick, clumsy, inelegant plant in all its parts. Its leaves are quite blunt and rounded at the end, beneath which they have a strong keel usually, but not the point found so often in *S. occidentalis*. The spikes are thick, with the dichotomous spikelets more closely set and more spreading. Inner bracts less blunt and less membranous. I know not how the character derived from the anthers will stand examination, but none of the above seem to be of much value. Nevertheless I think that the identity of the British and French plants is certain, and that real *S. Dodartii* is only known from Portland Island. I think that I shall send a short note to the "Annals" on the subject. Nevertheless you may state in your paper that I now consider all the Irish specimens as belonging to *S. occidentalis*. Dr. Francis seems very well pleased with your powers as a reviewer— so you may go on boldly in that line. Have you begun to look after *Draba verna*? It is coming on fast here, and seems to me not easy to bring into accordance with Jordan's species. I think

that *D. praecox* is probably distinct, but have formed no favourable opinion of the others. There is no doubt that Bentham has invented new English names, and put them into the place of old English ones. Perhaps he could not help it in attempting uselessly to form *an English binomial nomenclature*.—Yours truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

CAMBRIDGE, *April* 14, 1860.

Dear More,—I return the article by this post, and am glad to add that I approve of it. The form of some of the sentences seems to me to admit of improvement by slight changes of arrangement. I have ventured to mark two or three that seem to me to require change the most. If Francis puts it in as it is now terminated, you will have the chance of a "second notice," such as you desire. Watson cannot be otherwise than highly pleased with this notice. You have noticed the good and valuable things, and left quite out of notice the many things that are in bad taste. I know nothing about the arrangements of "Macmillan's Magazine," but suppose that the editor is the authority who determines what shall go in and what not. I should not think that Macmillan takes any part in those things. I certainly did know you in the "Phytologist." Irving is an old-fashioned pedant, and, not knowing much about botany, exhibits his editorial pen in such things as those relating to Moore. I dare say Moore did spell the names wrong, but they ought to have been corrected quietly, and not made a parade of. I fancy that you know that John Sim is a very deserving man, and should be treated with all kindness, and his errors noticed as leniently as possible. So notice his errors, but as you wish to please me, say all that occurs to you in mitigation. I am inclined to think that you had better keep to yourself the fact of being the author of the review, until time shews how Watson takes it. I would ask him as little as possible until it is done. I have not got a loose copy of De Candolle's notice to send to you, but the fact is that it is simply a notice of a generally laudatory character. It does not enter into particulars, and offers nothing likely to be of use to you. It is in one of the French reviews. I rather doubt the *Drabas* sent being *praecox*. What I have came from Baker of Thirsk, who would doubtless send it to you, as they are of his own gathering. Yours may be *hirtella*, but I doubt that also, on account of the petals and the shape of the pods. It seems to me that here we have a case of excess in splitting; of "ultra-radicalism" to be repudiated by the Progressistas. I have never seen any petals of a divergent form in *Erophila*. They are hardly to be trusted. Where do you get *Ficaria divergens*? I do not now remember the name, and it is not in Boreau. Is it in Schultz?—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *April* 17, 1860.

Dear More,— —— has sent me the New Brighton plant as *Viola sabulosa*. It is the true *V. Curtisii* (a form of *V. lutea*). What I have from Portmarnock is exceedingly like a state of *V. tricolor*. Whether it is annual or perennial I am unable to say. It seems to have a woody tap-root. I have lately written *oblongus* to your Kilmacduagh *Potamogeton*, but retain *lanceolatus* to Carroll's plant from Recess, Connemara, and Dr. Moore's Killarney; also an Antrim plant of his; also a plant of my own from the Gap of Dunloe, Killarney. There is a plant in the swift water at Old Weir Bridge, Killarney, which may also be *P. lanceolatus*, but I could not get fruit. From whence did the Aran people in the "ould time" get *Allium Babingtonii*? I do not doubt their cultivating it in a way, and eating it also, but think that they may have found it native. I certainly think that your *Euphrasia* is the same as mine from Aran. It comes very near to *Salisburgensis*, although the true continental plant has even more deeply jagged leaves than this. I am not inclined to separate the plant into segregate species. I hope that it will return safe to you.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *May* 4, 1860.

Dear More,—I think that I told you that —— sent me the violet of New Brighton, Cheshire, as the *V. sabulosa* (Bor.), *V. Curtisii* (Mark.)—not (Forst.)—in all which respects he is wrong. The plant is *V. Curtisii* (Forst.). *V. Symei* is to me still a nonentity. I am glad that you say it is *V. tricolor*. Can it be identified with any of the French plants? I believe that Smith's *Potamogeton lanceolatus* is not *P. nitens*. As to my leek having been taken to Ireland by the "ould people," I have little to say except I doubt. If they had taken it we should find it more general in the country than it is believed to be. For in a moist climate it keeps a firm hold wherever it is introduced. I think that you might as well cause them to have brought the peculiar heaths as garden flowers together with London Pride. Do not believe all that the Galway people tell you about the history of the Irish. Old they are, and have an ancient history, but not quite what they have been taught to fancy. I do not like your new word *Ornither*.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *May* 5, 1860.

Dear More,—I see that I have not yet sent to you the information that you required. *Stellaria Boreana*:—I suppose that your plant from St. Helen's Spit, May 1858, is this plant.

My *S. neglecta* is I think the plant of Weihe, Reichenbach, and Boreau. My *S. umbrosa* I cannot identify with Boreau's plants. As far as I can see it only differs from the plant of *Opitz* in wanting hairs on the calyx. Mr. Joseph Woods determined its identity with the *S. grandiflora* of Tenore. I have not seen it anywhere except in a wood at Maresfield, Sussex. *S. umbrosa* and *S. neglecta* have *acutely* tubercled seeds. *S. media* and *S. Boreana* have *bluntly* tubercled seeds. [Make what use you please of this]. I have got *Cerastium pumilum* in a pot; raised from the seeds of my last year's plants. Of course you are allowed to publish what you please about *Lepigona*. I have not looked at the plants for months, and may not for months to come. I had never any desire to stop you or any one else. In this case I have done nothing, and you ought to do more than translate: for you should identify the plants and remark upon them.—Yours truly, CHARLES C. BABINGTON.

I have at last concluded the proofs of "Cambridge Flora," and so have reason to hope that it will appear soon.

To A. G. MORE, Esq.

CAMBRIDGE, *May* 15, 1860.

Dear More,—I am glad that you found the information about the *Stellaria media* of use. You are free, of course, to make what use you please of the remarks about the seeds. You only confirm my former opinion of a want of accuracy in ——, by telling me that he called the Portmarnock and New Brighton plants by the same name. I do think that the *Allium* is native in Aran: and if brought there by the Firbolg it cannot be less than 2000 years ago. I suspect that it will be found in Western Spain: but that will be no proof that it was brought from thence. I know that the present natives use it. My "Cambridge Flora" is not yet out—I shall send you a copy when it is. You know that I take very little interest now in the "Phytologist." But certainly I did not know either that Pamplin was selling his business, or that Watson contemplated a new Journal. Write on for Irvine until the new scheme is settled.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *May* 28, 1860.

Dear More,—I do not expect to be in London this week, and so shall miss this chance of seeing you. I think that you will like the "Cambridge Flora" when you have time to look into it: especially I fancy that the introductory and supplementary parts will interest you. Watson writes in very favourable terms of it to me. He says nothing about the projected Journal; so you may as well not tell him that you have told me of it. You ask my leave to adopt

some part of my plan in your "Pocket Flora." I claim no patent for the plan, and any one has a right to adopt one similar. I have sent the specimens which you want, to the Linnaean Society in a parcel with Bell Salter's *Rubi*. I have long wished to return it, but could not conveniently take it when last I went to him. I direct this letter also there, not knowing where else to send it. Crépin tells me that he does not believe in the *Erophilas*: neither do I. I see that the Editor of the "Phytologist" does not know anything about *Orchis incarnata*. He takes more interest in his foreign escapes at Wandsworth than in the true flora of Britain. Sowerby has now finished his "British Wild Flowers." Have you seen it? It might have been much better if in the hands of a more competent editor: but it will be of use. Henslow and W. Shepper, of Bury, are printing a sort of fore-runner to a "Flora of Suffolk." It is very meagre, and Benthamian, but may stimulate the local men.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 20, 1860.

Dear More,—I do not think that any reasonable person would try to make species out of your interesting series of *Draba verna*. I once rather suspected that *praecox* might be distinct, but that set seems to determine the point in the negative. I should name the *Sagina* from Bembridge *ciliata*, but suppose that the French would call it *patula* or Jordan, and believe that Fries' plant is not the same. I cannot help fancying that your *Cerastium tetrandrum* with nodding heads is not the true plant. I am thankful for the specimens of *Festuca Broteri*. As you have the true plant, and also plenty of recent specimens of that which grows in the Isle of Wight, I think that you had better draw up an account of the plant yourself. You have the most knowledge of it, and can do it best. Above all, do not neglect the present opportunity of drawing up a careful description of the fresh plant. You must also contrast it carefully with its allies, so as clearly to point out the differences between them; also between it and the African plant. —— could not have given you any opinion of the least value relative to the name of your grass. He knows nothing of foreign synonymy of grasses, and I would not give a fig for his names. He draws and describes accurately, and is, therefore, valuable in such an order, as he furnishes materials for others to work with. I am glad to learn that you are convinced that your *Plantago* is a form of *maritima*. It is a singularly variable species. I much doubt if there is any real permanent distinction between *Trifolium sativum* and *T. pratense*. I fear that the latter is not a true native in the lowland parts of England; at least, I have never felt sure that I saw an absolutely indigenous plant of it in such places. When such a plant as *Crataegus Oxyacantha*

only exists in places where it has almost certainly been planted (and I know of no other in this county) it must have a † stuck upon it. I fear that the claims *here* of *Poterium muricatum* are very small. I might perhaps safely and wisely have used the dagger to some of the other plants which you enumerate, but not to all of them. I am not clearly informed so as to brand the two small *Fumarias* conscientiously. They may probably be true chalk plants. *Chrysanthemum segetum*, on the other hand, is a true plant of the black soil (peat), and I believe it is native. *Melilotus arvensis* might well have been marked, but I think not, *Vicia gracilis*. My estimates in Appendix x. 4 are taken in the same groups as Watson takes them in the "Cybele," viz., groups of vice-counties, decreasing by one each time. I thought that better than arranging by number of species, especially as Watson had done it for Great Britain. Have you any idea of what Newbould has in view after the next few months? He has told me nothing about his prospects. I wish that his careful study in London could lead to his giving us some results in a public form. But I have no hopes of such being the case, and fear that he cannot be persuaded to act for himself in botany. I think it likely that you are correct in joining *Stellaria umbrosa* and *neglecta*. Have you observed the great omission in Kindberg's essay? viz., the total want of any characters for his *Stirpes* except the annual or perennial roots. I find the want of these very perplexing in the endeavour to identify our plants with his. *Lepigonum neglectum* = *L. rubrum* β *medium Bab.*; *L. rupicola* seems common; *L. marinum* is the only one with the smooth mostly-winged seeds. Except *L. rubrum* I have seen no other kind in Britain. I am glad that the "Flora of Cambridgeshire" pleases you. As to its comparison with other local floras I may remind you that there is but one on the same plan, viz., Webb and Coleman's of Hertfordshire, or, to a certain extent, Baker's Supplement to the Yorkshire, unless, indeed, you allow my "Primitiae Florae Sarnicae" to have been on the same plan, and the first on that plan. There the islands form separate districts. I have already had a few corrections, such as learning that *Hypericum elodes* continues to inhabit the ditch bounding the county near Gamlingay; *Statice caspia* ought to have been mentioned as a native of the *north* coast of Norfolk; *Trifolium ochroleucum* grows in Eton Socon parish, in Bedfordshire; please on p. 318 (in section 13) erase *Teesdalia nudicaulis*, inserted by an oversight; at p. 85 for *Lepigonum medium* read *L. neglectum*. I have got young plants of *Papaver Lecoqii* (Cambridge, and Rochfort in Belgium) and *L. Lamottei* of Sheffield and Belgium growing in the Botanic Garden. I shall return here after the British Association Meeting at Oxford to follow their growth until they fruit. Why should not you go to the Oxford Meeting for a few days? Newbould thinks of doing so. It will not be expensive, and you would see and hear much. It begins on Wednesday, June 27.—Yours truly, CHARLES C. BABINGTON.

To A. G. More, Esq.

Cambridge, *July* 14, 1860.

Dear More,—I thank you for the copy of your "Natural History of the Isle of Wight." I have looked at it in many parts, and am much pleased. It will probably be of much use to those who wish to find plants (especially) and animals in the island. It must indeed have been a laborious undertaking for you. I do not really know what to say about the *pseudo Festuca Broteri*. As soon as you have made up your mind on the subject, I should advise your giving your paper to the Linnaean Society, for publication in its Journal. We want a few papers on British plants there, and yours will probably be just the thing. Certainly I am not at present inclined to think it a form of *Myurus*, for the plants seem very different. I see that you do not allow it to have any relationship to *F. uniglumis*, although so very much like it in habit. In a few days I hope to look carefully at the plant, and if I find anything out, or form any reasonable opinion, as I hardly expect, I will inform you of it. I wish that you could have been at Oxford: you would have liked the Meeting, and been especially astonished to hear Newbould attempt a speech in the section. He did not exactly break down, but only got out two sentences. I tell him that as he has now made a beginning he must go on. He says that he won't. So you should congratulate him, and tell him that he ought. I hope that *Helianthemum polifolium* may prove to be a true discovery in your island. Newbould and I saw lots of *Papaver Lamottei* at Oxford, and Turnham Green. Yesterday I found *P. Lecoqii* near Ely. I really think that we must accept these as distinct species. The sap seems conclusive of a constitutional difference between them. What think you?—Yours truly, Charles C. Babington.

To the same.

Cambridge, *Aug.* 10, 1860.

Dear More,—I do not wonder at your having not been out much lately. The season has been most unfavourable for out-of-door work. But I am really very sorry to find that you state your health as the cause. Lindley (or Editor) gave a favourable notice of your "Guide" in the "Gardeners' Chronicle" of August 4. He remarks, which had escaped me, that you omit *Arum italicum*. I agree with him in believing that it is "perfectly distinct from *A. maculatum*, and certainly grows at Steephill." I believe that the pale-sapped *Poppy* is the more common plant in the country—at least, such is the result of the knowledge that we as yet possess. I think it quite distinct from the yellow-juiced one, *Lecoqii*. The latter grows on chalk, chalk-gravel, and peat, in this county. The *P. Lamottei* lives upon sand with us, and on wall-tops at Oxford

and Turnham Green. I think that the sap is a good character when conjoined with a lot of other (although minute) differences. In the *Oenanthe* the sap seems to have been the only marked difference between the plants—not so here. I now feel sure that our *Lecoqii* is that so-called on the continent, but a little doubt has arisen about the *Lamottei* being the true plant. I hope in due time to hear from Crépin on the subject. *Helosciadium repens* is one of our most questionable species: but I suspect that you have not got the true plant. Probably most of the so-called *repens* are *ocreatum*. I have not got De Gall's book, and so cannot help you relative to its contents. Indeed I know nothing about the book, except its name. You have plenty of time, as the Linnaean does not meet again until November 1. I do not think that there is likely to be any material change in the sequence of the species in the next edition of the "Manual." When that next edition will be wanted I really cannot say: it may be some considerable time as yet. There is no doubt that Bentham's book has slackened the sale of the "Manual" slightly. I hardly know what floras to recommend you to get, but certainly one should be Fries' "Novitiae Florae Suecicae" and "Novitiae Florae Suecicae Mantissae" I., II., and III. I hope that you may be so fortunate as to get them. Try if Pamplin has them in stock; if not, order them of Williams and Norgate. Have you got Nyman's "Sylloge"? It is useful as giving a tolerably complete list of the European flora, and the countries in which each plant is believed to have been found. Cosson and Germain is valuable, especially the *Atlas de la Flore des environs de Paris*. Lloyd's book (ouest) is the last relative to Brittany, and Van der Bosch's to Holland. I have lately got a lot more interesting *Rubi* from Germany,—Wirtgen's Herb. Rub. rhenan.; it contains now 116 good specimens—I do not say species. By the way a certain Philipp Jakob Müller has issued a "Versuch" (essay monographic) on the French and German *Rubi* (all in hard German, and without specific characters in any form, only long descriptions) in which he describes what he calls species from those countries to the number of two hundred and thirty-six! What is our forty-two or forty-three to that? or even our sixty odd, if we name all the forms. I hear of a discovery in Essex, viz.: of *Lathyrus tuberosus* in abundance near Ongar, where the farmers have known it for sixty years. G. S. Gibson is on the scent, and will hunt it out in time.—Yours truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

CAMBRIDGE, *Aug.* 11, 1860.

Dear More,—I omitted to notice that part of your letter which relates to *Lepigonum*. My idea is that the plants which you want

to make out to be *L. medium* are *L. neglectum*. I have the true *L. medium* of Fries, and have not seen English specimens resembling it. It does not (according to Kindberg) occur in France. *Arenaria marina* (Roth) is said by Kindberg to be *L. neglectum*, as certainly the plant so called by Reichenbach is. *Spergularia media β marginata* I suppose to be true *L. marinum*. I see that Kindberg places the *S. media* or *heterophylla* to *L. salinum*. It seems probable that we may have this, as its distribution seems favourable to us. I have authentic specimens from Scandinavia, and have no British that resemble them: except that they considerably resemble *neglectum*, and indeed hardly differ in anything but having the seeds *smoother*, for I cannot say that they are *quite* smooth in the Scandinavian specimens, and also the *winged* seeds are hardly more abundant than they are in *neglectum*. I wish that the sections were better defined in the *Symb. Lepigonorum*.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Oct.* 15, 1860.

Dear More,—When the parcel arrives I shall examine the plants with care and inform you of the result. It will give me pleasure to do so. I am glad to tell you that I have Lappish specimens of *Potamogeton sparganiifolius* from Fries, and that they are exactly the same as the plant from Ma'am, Galway. I have never been able to find a satisfactory distinction between *Festuca elatior* and *arundinacea*. Nevertheless there does seem a difference in the growing plants. Nor could I ever learn from Watson the foundation of his opinion concerning them. The *Atriplex Babingtonii* came up true from seeds in our Botanic Garden for one year, but never appeared again, nor anything in its place. I feel sure that it will come true, but please to try. States of it and of *hastata* are often mistaken for each other. *Atriplexes* on fat land are amongst the most undeterminable of plants. If you expect to convince Bentham that *hastata* and *Babingtonii* are distinct, I feel sure that you will be disappointed. I am much obliged to you for the corrections in the "Flora of Cambridge." *Cardamine sylvatica* is omitted. *Epipactis latifolia* is doubtful. There is a sad omission of *Silene Otites*, which is tolerably abundant at Chippenham in my District 5. I may add that the *Fumaria capreolata* of Elm is *F. muralis*. Also that *Lepigonum medium* is *L. neglectum*. Your plants shall be carefully returned. Do you want *Rubus pyramidalis* or *incurvatus*, or *Arctium tomentosum*? I believe that I can send them to you. I spent a month in North Wales, but did next to nothing in botany. I am pleased with the notice of the "Flora of Cambridge" in the "A. N. H.," but should have liked its historical character to be a little more prominently noticed. Perhaps, however, that point strikes me more than it does others. I am sorry to hear of your bad health.—Yours truly, CHARLES C. BABINGTON.

To A. G. More, Esq.

Cambridge, *Dec.* 4, 1860.

Dear More,—I am now unable again to examine the *Ranunculus* from Niton. I certainly do not think that it can be either *Drouetii* or *trichophyllus*. I have often found *heterophyllus* totally without any flat leaves, and believe that such plants (and they often grow abundantly together) never produce them, even probably in successive generations. How that is, and why, I cannot say. Your plant has fewer veins in the petals than any *heterophyllus* that I have ever seen, and I suspect that it may be distinct, and even that possibly the without-floating-leaved *heterophyllus* may not be the same in species as the typical floating-leaved plant. Nevertheless most modern botanists who have attended to the plants recognise two states of *heterophyllus* such as these. It will indeed be fortunate if you succeed in finding any floating leaves in Niton pond next summer. I do not expect it. Do you make sufficient allowance for the deposit of lime upon the leaves, when you call those of the specimens sent from the little pond at Bembridge "quite rigid"? I do think that the specimen now sent is *floribundus*, and if you can prove that it descends from true *heterophyllus* you will do good service, for you will upset nearly all our supposed series of Batrachians. I do not see how the wet or dry season is to have any effect upon the plants, and do not believe that it has. In re *Lepigona*. The specimens now sent from the Isle of Wight I call *neglectum*. They are the first I have received from the island, and very acceptable to me. That from Bembridge I also consider as *neglectum*. You have put no names, but I presume that so you would have marked them if asked to do so. Your specimen from Cheshire is exceedingly like my authentic *salinum* from Sweden. Fries and Kindberg say that many of the seeds of *salinum* are winged, and I find such seeds on the authentic specimen from Denmark, named by Fries for Lange. Did you find any on the Cheshire plant? I find a wingless seed or two on the paper, which are smooth, and very like those of the Danish plant. The pedicels seem to vary in length. The lower ones are much the longest, both on the Cheshire and Danish plants. I see that Lange notices an apterous state of *L. salinum*, which seems to be your plant from Cheshire. Mr. Hunt ought to get more of it, and send it to you. It is probably not even yet too late in the season. In the paper which you sent some time since, you group the *Lepigona* according to the winged or wingless seeds. That will not do, but probably their being smooth or tubercled will. So Kindberg and others group them. I doubt your *Carex Oederi* being correctly named, but am not quite sure about it. All the three papers of *Parietaria* are *diffusa*, I suppose. May not your *Valerianella* be *eriocarpa* without hairs? There is exceeding confusion about the crown of these plants, they seem to vary much in the extent of toothing. I doubt yours having a *central* tooth in front. Have

you seen Woods' paper in Linnaean Transactions, Vol. XVII. ? I shall send back the specimens in a day or two, exclusive of the *L. neglectum.*—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Dec.* 17, 1860.

Dear More,—I have no doubt that the summer of 1861 will set you all right about the batrachian *Ranunculus.* I have next to no doubt about the *Lepigonum salinum* being correct: surely the salt-spring country is a likely place for it without supposing that it has been brought from the coast. Are there not several other saline plants thereabouts? Kindberg says of it "in locis salsis," and does not add (as in *L. marinum*) "praecipue marinis." I did keep one branch of the specimen, which was detached when it came to me. I supposed from your letter that you had not received any more of it. I shall be thankful for a better piece at some future time. I am much amused with your very great desire to find *L. medium.* I suspect that we should look towards the north for it, and not at all necessarily to the coast. I consider that the remarks in the "Mantissa" III. are superseded by Kindberg's essay, which I believe fully that Fries adopts. He does not seem to have attended to the rough or smooth seeds at that time; and indeed, are they altogether trustworthy? Think of the seeds of *Spergula*! How they vary. I am sorry to say that I have not a very high opinion of your paper, nor do I quite see the use of just now publishing it. Excuse my asking if you are not sometimes in quite sufficiently great a hurry to print these things. I have had sufficient materials (except in the case of *L. salinum*) in hand for some months to have written a much more elaborate paper upon the genus; but I have and do refrain. I always like keeping things a good while; not nine years, as recommended by Horace for poetry, but often for twice as many months. I have often found the benefit, and if any one steps in and does the work in the meantime, I am rather pleased than otherwise. Now do excuse me. I have much doubt of the distinctness of *Valerianella criocarpa.* Have they a set of the Linnaean Transactions at Ryde? if they have one, you should look at Woods' valuable paper upon *Fedia*, in Vol. XVII. I send by this day's post my copy of the 7th edition of Arnott, to your address. Return it when done with. I am glad that you have taken the 8th edition in hand, and will willingly read over and remark upon the MS. as you seem to wish me to do so. I am in no special hurry for the return of the book. I fancy that they will have no objection whatever to be "convicted of Benthamianism." It is their natural tendency. For instance under *Isoëtes*, see the remark that there may be only one species in the genus, and yet they must have *I. hystrix*, and probably *Duriei* in the herbaria at Kew and at Glasgow. In fact, they cannot have

examined either of those plants: species which grow upon dry granite rock, and have very curious woody scales on their corm formed from the bases of the old leaves. I have now to add the former of these plants, *Isoëtes hystrix*, to the "Flora of Guernsey." It has been found there by the same botanical gardener, Wolsey, who found the *Ophioglossum lusitanicum*. It grows at L'Ancresse. For a good description of it, see *I. Delalandii* (Lloyd), "Fl. Ouest." It is the most interesting addition (at least to me) that has been made for years. Certainly Arnott takes (for he is the sole author) but little trouble about the recent splits, unless he has himself found them in Scotland, and then he splits for himself. Sometimes he mistakes, as in the case of *Sagina ciliata*, which is really unknown to him. Wilson's "Bryologia Britannica" is an excellent book. You cannot do without it, if you take to the mosses. I have not a Longmans' list at hand, and so cannot tell you its price. Expensive though it is.*—Yours truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

CAMBRIDGE, *Dec.* 27, 1860.

Dear More,—I think that you had better print what you have to say. I have no present idea of drawing up any paper upon *Lepigonum*, so do not let my having some MS. in my care at all influence your proceedings. Of course the shape of the seed is a better character than its roughness. I believe that you are quite correct about the seeds of *L. rubrum;* very many of them are nearly as flat as those of the other species; others are gibbous on one face. In my notes I see that I have said *seeds triangular-ovate*, and omitted all notice of their supposed triquetrous character. I have just had a good set of the *Barbarea* from Manchester, sent by Mr. Hardy. It is the *intermedia*, and so is your plant from Tartaraghan. If *Viola Reichenbachiana* and *Viola Riviniana* are really such distinct varieties as you suppose, I shall quite agree with you that they ought to be noticed. Give the means of doing so if you can. I have not seen any *Orobanche caerulea* from the Channel Isles, nor heard of its being there. I do not know Mr. Norman; perhaps he follows those who do not consider *O. caerulea* distinct. It is very difficult to make out the characters of these plants when dry. I do not know what to say about my Jersey specimens, which are very poor, but those from Alderney I do think quite distinct from the *O. caerulea* (of which I judge by Hoddesdon specimens). The bluntness of the corolla-lobes is very decided indeed. I think it quite possible that the Jersey plant may be *caerulea*. I have not seen the Isle of Wight plant. There is no certain rule about the use of capitals to the specific names. I think that most people now use them with *adjectives* only when the name of a person is included in it, such as Smithiana. That is my rule, and I hope that I have

* 42*s*.

kept to it. I am not inclined to "restore" the H. to *Elodes* and *Eleocharis*. The names in their Latinised form were published in that form, and I like it better. It is amusing to see Frenchmen (who usually make such a mess of classical names) affecting purism in these cases.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *Jan.* 25, 1861.

My dear Sir,—I am sorry to find that through an accident I have neglected to answer your note dated January 1. I have to hope that you will forgive this unintentional neglect. I think that you could not do better than take as the plan of your proposed "Flora of Marlborough," my little "Flora of Bath." I do not know that there is anything to suggest in the plan. I should however advise you to define the boundaries of your district rather more clearly than I did for Bath. Ordnance maps afford the means of doing this—they did not exist in my time at Bath. An outline map would be a good addition. You might save expense by reducing the type, and running the second line into the first with a break (—) between them, thus, "Quercus robur, Common oak.—Savernake Forest, abundant." You should pay particular attention to the real nativity of the plants in your district, where many natives of other counties may be adventitious. In my recent "Flora of Cambridgeshire" (a much more elaborate production than you want) I mark the plants as (1) *Certainly introduced*, but naturalized; *i.e.*, continuing themselves as if natives by seeds; (2) *Probably introduced*, being such plants as *Chelidonium majus*, which is never found except near houses; (3) *Possibly introduced*; such as the *Red Poppies*, and *Fumaria officinalis*. I have also to bracket [ ] a few plants, as probable mistakes or accidents. But my county has been under examination for 200 years, and so there is much room for such matters to creep in. Give also a short notice of the geological and physical character of the district, as an introduction. You know that there is part of a list of Wiltshire plants in the "Wiltshire Magazine." Look it over, and see if anything concerns you: also the "Old" and "New Botanists' Guides." I should recommend printing so as to come out at the beginning of the botanical season of some year. If I can give any help pray ask me to do so.—Yours truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

CAMBRIDGE, *May* 4, 1861.

Dear Balfour,—My friend Mr. A. G. More, of Bembridge, in the Isle of Wight, a well-known naturalist, desires an introduction to you by letter in order that he may ask if you have the power

and inclination to place him in communication with some zoologists in Scotland, who may take part with him in some valuable researches into the geographical distribution of birds, etc., in North Britain. I shall esteem it a favour if you can help him in this matter, for he is well deserving of help. He will write to you on the subject in the same cover that contains this letter. You will be sorry to learn that Henslow is sinking fast, and cannot probably live many days. He will be a very great loss, both here and in his parish. With the kindest remembrances to Mrs. Balfour.—Most truly yours, CHARLES C. BABINGTON.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *May* 23, 1861.

Dear Preston,—I am glad to learn that you have been so successful in your botanical collections. I shall be glad to give you any help that may be in my power, but cannot properly leave Cambridge for some little time, three or four weeks to come. Had it been later in the year I should have liked to pay you the proposed visit, and looked over the collections with you. How soon do you announce the successful candidate? If not sooner than that, I will endeavour to come.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *May* 25, 1861.

Dear Preston,—I will certainly endeavour to come to Marlborough next month, in time for the examination of the plants, but cannot fix the exact day at present. The annexed will shew what I am about.* The election is June 12. I have good hopes of success.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 3, 1861.

Dear Preston,—I do not think that you have any vote on the 12th, as I believe that your name is not on the Electoral Roll of *Residents*. My idea is to go to Marlborough on Tuesday, June 18. Will you tell me by what train I can get on to you, and how? Could not you best get the plants, as you know what species the boys by themselves have already obtained? Nevertheless, if you find that impossible, I will do what I can. I am sorry that you make so much use of Bentham's book, for it certainly does not tend to promote the minute accuracy requisite to render botany a valuable educational subject. Think of this against another year. —Yours truly, CHARLES C. BABINGTON.

* Elected Professor of Botany, June 12, 1861.

To the same.

CAMBRIDGE, *June* 15, 1861.

Dear Preston,—I hope to arrive at Marlborough by the second train that you mention on Tuesday next. I am very sorry to learn that you do not think it possible to get the requisite specimens, as I am not sure that I can obtain them on Monday. I think that you take a rather erroneous view of what is required. I expected that you would go out into the country and get *wild* plants. We do not want to puzzle the boys, but to see if they know the plants, and have named them without help.—Yours truly, CHARLES C. BABINGTON.

(P.S.—June 16. I think that I shall be obliged to leave the getting of the specimens, some of them to Wednesday, at Marlborough. It really signifies very little what the plants are, and I am *opposed to giving foreign plants* to the boys. If you can get them from the fields on Tuesday, so much the better.—C. C. B.)

To Sir JOSEPH D. HOOKER, K.C.S.I.

CAMBRIDGE, *July* 23, 1861.

Dear Hooker,—G. Henslow informed me that he had a few diagrams to send me. I shall be obliged by your taking their transfer in hand when opportunity offers, as you propose. The packages from Stevens have arrived safely. I do not attend the sale to-day—for there seems to be nothing in my way—or at any rate for which I could find space. What has become of all the French flint implements? I should have very much liked to have obtained one of them for our Antiquarian Museum. Quaritch, of 15, Piccadilly, writes to say that a copy of Wright's "Icones Pl. Indiae" Vols. I.—IV. was withdrawn from the sale as belonging to our Botanical Museum. Is he correct? If so, where are the books? And will you direct that they be sent when opportunity offers, or delivered to Pamplin directed to me? He also proposes to sell Vols. V. and VI. and index (to complete Wright's book) for £6 15*s*. Will that complete it, and is the price proper? I am very much obliged to you for the remarks contained in your letter. They accord exceedingly well with my own ideas, and I fancy were also those of our lamented friend. I propose to myself to follow Henslow's plan of teaching as well as I can, and apply myself almost wholly to the inculcation of clear views upon structural botany and classification. I do not think of entering more into the minute physiological matter than is requisite for the understanding of ordinary structure. Certainly I shall try to teach clearly "what does a *Dicotyledonous* seed consist of?" also how to "pull a flower to pieces," and describe it. I shall endeavour to follow the "Schedule" plan of Henslow—although I am not so familiar with his mode of working it as I could have wished. My

course is, as you know, necessarily a short one, and that alone would necessitate a limitation of the subject. Fortunately, such a limitation falls in quite with my own ideas of what is desirable to be taught to such a set of students as we have here. I hope to give them a foundation of accurate and minute observation, upon which they can safely build for themselves afterwards. How I may succeed, time will shew—I have fears, but shall do my best. I shall always be most obliged to you for any hints that may occur to you on botanical matters. Our herbarium is in a sad state, and must remain so until there is a fit place to put it in. At present it is quite useless, and fills up the only room that we have, so that I can hardly turn round in it.—Yours very truly, CHARLES C. BABINGTON.

To Sir JOSEPH D. HOOKER, K.C.S.I.

CAMBRIDGE, *July* 30, 1861.

Dear Hooker,—By the blundering of the Post Office clerks your second letter has been upon its travels, and only just arrived here. I am very much obliged to you and to Dr. Wright, and shall be glad to get the two wanting volumes of Wright's "Icones," to complete the work at £5, and if he will send the books to me I will pay him for them immediately. I shall also be exceedingly glad to get the copy of the index, so as to render the work more available, and thank you very much for your offer to obtain a copy for our Museum. I have no doubt that the box has arrived, but as I only returned here last night, I do not yet know. I do not believe that it will be possible to get anything done towards the arrangement of the herbarium until the proposed New Museum is built—that is, probably for two years at the least. All we can do is to keep the packages dry, and trust to the poison for their preservation. When the time comes for arranging them, I shall be exceedingly glad to avail myself of your kindly offered advice. I am very sorry to learn that G. Henslow has lost his child. It is a sad additional affliction for him. I shall be very glad of the flints sometime for the Cambridge Antiquarian Museum.—Yours truly, CHARLES C. BABINGTON.

To the Rev. T. A. PRESTON.

Aug. 14, 1861.

Dear Preston,—If you contemplate again giving botanical prizes, I should advise some such alterations as I have made on the enclosed paper. You must judge for yourself what "Flora" to adopt, but do certainly give up Bentham's book. I think that a short paper of questions out of Henfrey would be a valuable addition to the scheme. It is not asking much, and if the contents of the book are well got up, much will be learned.—Yours truly, CHARLES C. BABINGTON.

To Sir JOSEPH D. HOOKER, K.C.S.I.

CAMBRIDGE, *Nov.* 16, 1861.

Dear Hooker,—I am very much obliged to you for sending the Celts. The three are very valuable additions to the Museum, and I purpose presenting them in the name of our lamented friend, unless I am directed by you to act otherwise. The dentritic mark is exceedingly curious, and I think that Henslow was fully authorized in believing it to be a proof of extreme antiquity. I do not know anything about the implements of which you have sent casts. What sort of things are the implements found at Hoxne, and considered as of the same date as the French ones? Can these be they? I rather fancy not, as they seem to belong to a much later type.—Yours truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

CAMBRIDGE, *Dec.* 24, 1861.

Dear Balfour,—I return the herbarium specimens, and hope that they will arrive safely. There is no *Isoëtes echinospora* amongst them, nor, I am sorry to add, can I now send one to you. My specimens of it (only gathered by me once) are mostly gone to M. Gay at Paris. I am not absolutely certain of the exact place where I found the plant, so long since as August, 1847, but believe that I do know. I have obtained specimens, all *lacustris*, from ten or twelve different places in Carnarvonshire, but no one of these is just the spot in question. All the specimens that I have seen from Scotland and Ireland are *lacustris*. Gay sends me *echinospora* from central France, and thinks that he has it from Sweden. Our plants should be looked for in mountain lakes everywhere, in September, in the hopes of finding the new plant. It is of no use to gather them without the larger spores being in a well-advanced state. I have only to add that I do not think it right to *publish* the discovery of *echinospora* (Dur. MSS.) as a native plant at present. For we should do wrong to anticipate Messrs. Dureau and Gay in their forthcoming essay—intended to appear in the spring of 1862.—Yours very truly, CHARLES C. BABINGTON.

To CHARLES DARWIN, Esq.

CAMBRIDGE, *Sept.* 16, 1862.

Dear Darwin,—I hope to be able to get seeds of *Lythrum hyssopifolium* from our Botanic Garden in a few days. The Curator has undertaken to look for them, and I will send them when received. You know that the British Association is to meet here on October 1 next, and it would give great pleasure to many of us to see you here at that time. Could we have calculated upon your convenience and health allowing you to take the office, we should have advised your

being placed in the chair of the section of Zoology and Botany. But, although not in the position in which we would have placed you, nevertheless you might perhaps come for a few days as a private member of the Association. We want all eminent Cambridge men to attend, and amongst these we place C. Darwin in the first class.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

CAMBRIDGE, *Dec.* 9, 1862.

Dear Balfour,—I find Lindsay's list of Iceland plants so imperfect and otherwise unsatisfactory (*quoad* Phanerogamia—I know nothing of the Cryptogamia), that I am making collections of materials for a new "Flora of Iceland." Are there any Icelandic plants in the herbaria at Edinburgh? Were Lindsay's collections extensive, and what has he done with them? Are they at Edinburgh? Unfortunately he does not mark in his list the plants that he saw himself, and he is so Benthamian that many of them are very doubtful. He seems but little acquainted with the works upon northern botany, and has taken but little trouble to identify the old plants, and has therefore made some rather curious blunders. I mention this to shew to *you* that I have some excuse for attempting a new Flora. Especially as I *now* have probably the best Icelandic herbarium in Britain. I have discovered a valuable old list in the British Museum, in MS., and unpublished. I intend to give *all the localities* that I can obtain of the plants, and quote all the old lists to which I gain access. I shall perhaps have a few notes on the *Eleocharis Watsoni*, to send to the Society now that I have seen those in the new part of the Bot. Soc. Transactions.—Yours very truly, CHARLES C. BABINGTON.

Shall I send a set of the papers given at our Natural Science Examination for Honours now just finished?

To the same.

CAMBRIDGE, *Dec.* 11, 1862.

Dear Balfour,—Do you know anything of Lindsay's Icelandic plants? Has he given a set of them to the Botanical Society or to you? Did he get many in Iceland? Did he give duplicates of them to the Botanical Society, and if so, can *I* obtain a set of those duplicates? I wish that you would take the opportunity of an early meeting of the Botanical Society to state that I am particularly in want of specimens of *Isoëtes*, from as many different places as possible (two from each place,—one for myself, and one for Gay, of Paris), in Scotland or elsewhere. Could you learn what specimens there are of *Isoëtes* (either *lacustris* true, or *echinospora*) in the Botanical Society and your own collections? I might most probably be able

to add to both herbaria some interesting examples. I am almost as hot after them as Gay,—and that is saying much, and is the result of his teaching and example. I have got *none* from Scotland, except from Croall, and Sunderland (?) (both Aberdeenshire), and those gathered by myself. Surely some of your collectors must have got the plants in new places in Scotland, and would communicate with me. Neither can I obtain them from Ireland. Do have the kindness to press this matter upon the Scottish botanists. Thus far you may read what I say *to the Society* if you choose.—Dear Balfour, yours truly, CHARLES C. BABINGTON.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *Jan.* 8, 1863.

Dear Preston,—Shall I return the bit of *Astrantia* after I have done with it? Can it be native?—I fear not. I write to Darwall about it to-day. The article in the "Times," I saw, and was much amused at men's credulity. Ten or fifteen years since the same story was prevalent. Now men think that they have raised barley (and it seems wheat) from oats. For the satisfaction of some farmers we have sown oats in our Garden; and cut them down three times last summer, and do not expect to reap barley or wheat. Seeds of both those grains were in the sample before it was sown, and were of course removed. Most of the plants are apparently dead—indeed the crop looks exceedingly bad. I fancy very few will produce ears. The neighbourhood of Penzance is excellent ground for the botanist. It has many plants that are not at all, or rarely, found elsewhere. It may be worth while to look out even now. Try and find the little *Ophioglossum lusitanicum* which should now be in perfection.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Jan.* 22, 1863.

Dear Preston,—I return the *Astrantia* with thanks. It has had a narrow escape of being lost. I put it away safely in case you were to have it back, and so safely that it is only after a long hunt that I have again found it. Please in future always to mark *for return* on specimens intended to be returned. It will save me from some trouble, and be none to you. I am rather surprised that you have found nothing new to you at Penzance: for, although the season is very much against you, I did expect that many of the plants might remain in so very mild a winter as the present. I do not think that it is of any use to attempt getting Mr. Ralfs to look at flowering plants. I think that he has confined his attention to the *Diatomaceae* and such like, for many years.—Yours very truly, CHARLES C. BABINGTON.

To T. R. Archer Briggs, Esq.

Cambridge, *Dec.* 24, 1863.

My dear Sir,—I am very much obliged to you for the specimens of *Hypericum*. Mr. Baker is quite right in thinking it different from *H. dubium*. If a variety of anything it is one of *H. quadrangulum* (*tetrapterum*); but I can hardly think that such is the fact. You do not say to what determination Baker arrived as to the name. I consider it to be the *H. decipiens* of Watson, which is apparently the *H. baeticum* of Boissier. It is just like a specimen of Watson's plant, and agrees in all respects (except in not having "sepalis obtuse crenatis") with Boissier's description in his *Elenchus*. *H. baeticum* is the older name. It is a Spanish and Azorean plant. But there seems to be even an older name, *H. undulatum* (Schousb.) in Willd. Enum. 810. That is stated to grow in Barbary, and its characters agree very well with your plant, which I suppose we must call *H. undulatum*. Wishing you all the compliments of the season.—Believe me to be, very truly yours, Charles C. Babington.

I have found a specimen of *H. undulatum*, and suspect that our plant is not the same (nor is Watson's the same), but think *H. baeticum* must be the name of the British species.

To the Rev. T. A. Preston.

Cambridge, *April* 26, 1864.

Dear Preston,—The Hort. Soc. are altering the terms of competition for their prizes, so as to render them innocuous. If you offer prizes, I should advise the number of species to be limited to say 200; the rarity not to be taken into account. The boy to do all himself from the use of my book or Hooker and Arnott alone. No plates: no naming by others. Neatness of preservation and correctness of nomenclature to be the points required. I am glad to say that I have a very satisfactory class of forty to fifty men. Walton has sent me the specimen of *Verbascum virgatum*, gathered I think near Waterbech.—Yours truly, Charles C. Babington.

To the Rev. W. H. Purchas.

Cambridge, *May* 4, 1864.

Dear Purchas,—I write to say that the Hort. Soc. have altered the conditions of their prizes, so as to remove the objections that we saw to them. In a very few weeks' time I shall be at liberty, for the men will no longer choose to attend lectures: then I should like to have a view of *as many Rubi* as you may think fit to send. The parcel would come cheaply by L. & N. W. Railway, without change of conveyance. I have forty to fifty students, most of them very attentive and industrious.—Yours truly, Charles C. Babington.

To CHARLES DARWIN, Esq.

CAMBRIDGE, *May* 18, 1864.

Dear Darwin,—It was only within the last few days that I heard that your health had been so bad recently, and it is now a great pleasure to learn you are materially better. I do not think that *Lythrum hyssopifolium* is come into flower, but will see the next time that I go to the Botanic Garden. We had it there last year, and I hope that it has sprung from self-sown seeds again; but do not know as yet. If we have it, I will take care that flowers are sent as you wish. I do not know where to get a wild specimen with the least certainty; but it is the same as wild in the Gardens. I am just about finishing my short course of lectures. The class has been a good one, from thirty-five to forty-five in attendance, and attentive. Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 6, 1864.

Dear Darwin,—I have no means of getting the *Stellaria graminea*, which is rare in this county. The plants producing different kinds of flowers grew at Sandgate, Kent. The words in my "Manual" (p. 54) are "Shorter or longer petals accompany an imperfection of the stamens or germen"; but the question has to be re-examined. Does not *S. graminea* grow in your neighbourhood?—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

CAMBRIDGE, *June* 13, 1864.

Dear Balfour,—I have carefully examined your *Silene*, stated to have been raised from seeds of *S. maritima*. I do not think that there is any *S. inflata* amongst the specimens that you have sent. I have placed the large ones side by side with true *S. inflata* gathered here, and the plants differ considerably. Nevertheless, these are the largest plants of *S. maritima* that I ever remember to have seen. I have gathered it with strong stems and a similar loose panicle occasionally, when growing on richer soil than usual. I never saw it, neither do these specimens, possess the true inflorescence of *S. inflata*. The calyx also and petals and bracts are those of *S. maritima* rather than of *S. inflata*. Your specimens lead me therefore to a conclusion just the opposite of yours. I think they rather tend to confirm the distinctness of the plants than to combine them.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *July* 16, 1864.

Dear Balfour,—Dr. Paget tells me that you have some hopes of coming here for the Medical Meeting next month. I trust that you will do so if possible. There is likely to be a very good

meeting, the medical men tell me. If not better provided for, I hope to have you in St. John's College for as long as you like to stay. I think that you should take the opportunity of seeing a little of the plants of our fens. We might form a party one day to the only piece of fen land that has not been tampered with by the cultivator and drainer. Also the *Statices* would be in full flower at Hunstanton, and we might visit that coast. Suppose you brought a select few of the best of your students to see these places, so interesting to them as so different in character and flora. Now do think seriously of these matters, and, as I hope, give them a favourable consideration, and come to a favourable result.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *Dec.* 14, 1864.

Dear Preston,—I do not understand the character of your prize. Oliver's "Lessons in Elementary Botany" is certainly a good book to use, although I do not think that he has improved the schedule in all respects, and he has used "pistil" in what I believe to be a wrong sense. The power of correctly filling up even such schedules as Oliver's is a power less easily acquired than might at first sight appear. Mistakes are very easily made, and it is an admirable test of exactness of observation, and real elementary knowledge of the structure of flowers.—Yours very truly, CHARLES C. BABINGTON.

You would be pleased to learn that Adams was elected a Fellow.

To the same.

CAMBRIDGE, *Dec.* 23, 1864.

Dear Preston,—Doubtless you will do well to use Oliver's book, which is excellent in most respects. I propose to alter the schedule a little, and am not altogether satisfied with the result of using my "Notes." (I send you some more copies of them.) I shall probably reprint them before my lectures begin, in an altered form. I think that the Linnaean system might be altogether omitted: and page 7 will not do. The men get it up, but do not understand anything from it. I would put in its place the definitions of the classes and divisions somewhat as they stand in my "Manual." I think that by altering it in this way, and in many other less material matters, I shall greatly improve it. If you print any schedules for the boys, I recommend their being altered as the one enclosed. For my own use I propose to add to "Leaf" the *shape* and *margination*; but perhaps you might find it fully sufficient without that addition. If I can help more, please to tell me how. I am glad to learn that your boys have taken up Natural History so

much as to form a "Society" in the school. It must do good: more, if they work it in considerable independence than if under the absolute rule of the masters. You will do well to encourage them as much as you can. I hope to remove my things into the new rooms next month, although there are no permanent fittings made, or even ordered. It will be better so, than continuing in the old cramped-up place. Of course no arrangement of the herbarium can be made until the University pleases to give me cases for its preservation. I hope that they will do so soon, but it is very costly.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *March* 11, 1865.

My dear Preston,—I am much obliged to you for sending the rules of your School Natural History Society to me. They seem well fitted for their object, and I am glad to learn that the society works well. I shall lecture this year in the new room, and have now totally evacuated the old place which you were acquainted with. It is wonderful the quantity of things that came out of it. Unfortunately the herbarium is much unarranged, and some parts considerably the worse for the unavoidable neglect it has met with.—Yours truly, CHARLES C. BABINGTON.

To CHARLES DARWIN, Esq.

CAMBRIDGE, *March* 28, 1865.

Dear Darwin,—I think that you will be glad to learn that the University has at last provided a proper room for a small Zoological Museum, and that the Philosophical Society contemplates offering its Museum to the University to form part of that to be formed there. As the Philosophical Museum contains a large collection of fish given by you, I think it well to inform you of this. The fish will be better taken care of, and more useful there than where they now are.—Yours truly, CHARLES C. BABINGTON.

I have got a good place for the University herbarium, and am beginning to get it put to rights. It seems to be very rich and valuable.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *April* 4, 1865.

Dear Preston,—You shall have the copies of the "Notes" and "Schedule" that you desire. I had hoped to have some remarks upon minute points in the former so as to make it better than it is; but you have not made them because, I suppose, you do not like to do it, certainly not because it is not wanted. You will see that I have

altered the "Notes" to so great a degree that I may and must believe that they may have even more alteration with advantage. I hope that when you use them you will particularly *note with care*, any points that require alteration, or if they do not absolutely require it, might be altered with advantage. I print a very small edition in order to allow of a reprint at a tolerably early date. The inflorescence was on the old schedule, and of the *leaf* the only additions are the *shape* and *margin*. Oliver leaves both leaf and inflorescence out of his schedule, and has not, I think, improved it in some other respects. I am sorry for this, as his "Lessons" is the best book that we have got for the use of beginners. I have not found the Linnaean system of any use, and it took up far too much space in the "Notes." If you want it, you can easily teach it from some other place. I do not understand how you arrived at the orders in Bentham, as you left the *Analytical Key* unused. But perhaps you refer to pages 48—52. Is it so? and are they so useful? I should like to know, and I must then add something of the kind to the "Manual." Do not think that I despise the Linnaean system,—far from it. It is a most useful index as far as it goes. Otherwise I should not let it have so prominent a place in the "Manual." I should not attempt system with the ordinary boys,—not go to the bottom of the schedule at all, that is, until some considerable advance has been made. It is quite enough if you can get them to fill up the rest of the spaces correctly. If they learn to do this, they will wish to go further, or if they do not, I would leave them alone, as it is useless pressing it on them.—Yours very truly, CHARLES C. BABINGTON.

Always put C. C. to my name in future—as Churchill Babington is made Professor of Archaeology, in the place of Marsden, retired.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *April* 29, 1865.

Dear Preston,—I think that it is one of the innumerable forms assumed by *Pimpinella saxifraga*. *Couch Grass* is a formidable penetrator of other roots, but I should not have expected so small a "root" as this to be penetrated by it. The *Carices* are very young for examination; but I think it likely that they are *riparia* and *paludosa* as you suppose. I think that a report on the botanical state of the season would be a fit and valuable subject for the "Journal of Botany." Send it to Seemann, 57, Windsor Road, London, N.W., not to me. I have about forty men this year, and have now had four lectures. We have got an admirable man in our new Curator of the Botanic Garden.—Yours truly, CHARLES C. BABINGTON.

I am sorry to see that the paper has moved, and rather defaced the first page of this note.

To Professor J. H. Balfour, M.D.

Cambridge, *May* 2, 1865.

Dear Balfour,—I return the proof of the Catalogue by this post. I have gone carefully over it, and made a few alterations and additions from my notes. Of course you will do as you please with them; but equally, of course, I think that they ought to be made, or I should not propose them. I am very glad to see that the alphabetical arrangement is not continued. You know that I always protested against it, and was forced to use the London Catalogue because of it. *Thalictrum majus* is = *flexuosum*. *Ranunculus reptans* (L.) I consider as a good species, only found in this kingdom at Kinross. Is there any authority for giving *Trifolium hybridum* as a native or even naturalized plant? I fancy not. I should wish to keep *Alchemilla conjuncta* distinct, for I think it is so. I have not yet considered *Rosa*. You might follow Syme. I think that the *true Paronychiaceae* are not placed well on p. 19. I should restore them to their old place. I am sorry that you have transposed the Tribes of Compositae. Read *Dabeocia* from St. Dabeoc, not Daboccia. I have no authority for *Plantago Cynops* (?), even as naturalized. *Corallorrhiza* and such like names should have the double *rr*. *Macrorrhiza*. Your sub-classes are not quite the same as mine. I doubt if they are better: although they may be. I have lately commenced lectures. For *us* I have a good class of about forty. What is that to your 400? We have had a most wonderful season here. Spring flowers are come and gone already. Yours truly, Charles C. Babington.

To the same.

Cambridge, *June* 20, 1865.

Dear Balfour,—I think that the plant is *Eriophorum latifolium* in a very young state, so as not to be easily determinable. I wish to add that I have more difficulty than ever about the *Sagina* from Ben Lawers. It is not *S. procumbens* as I thought. No *S. procumbens* ever had the habit that it has now acquired. But it is divided in fours, and *S. nivalis* should be in fives, as your other specimens are. Can there be two plants, and both of them new? This has very much smaller petals than the true *S. nivalis*. Should you go to the mountains this year, I hope that you will look carefully into this matter, and introduce living plants of the other kind into our respective gardens. Mudd takes almost as much interest in the plant as I do. He is quite transforming our Garden. It is so much better already as to be hardly like the same place.—Yours truly, Charles C. Babington.

I leave for Bath for a few days to-morrow, but shall be here most part of July.

To Professor J. H. Balfour, M.D.

Cambridge, *July* 28, 1865.

Dear Balfour,—The plants came before your letter. They are *Sagina saxatilis*, and, I quite suppose, *S. nivalis*. One thing is clear, that the latter plant is not constant to the number of parts in the flower. These now sent are divided in fives, the former in fours. Fries and others say that five is the right number, and I have been thereby misled. The figure in Syme's "English Botany" is certainly wrong in the habit of the plant. It is truly caespitose, but does not root. Our original plant is now a dense tuft of closely branching stems spreading from a centre, some two inches across, and looking much like a tuft of *Silene acaulis*. Mudd is very much pleased, and interested with it. Also *S. saxatilis* has given us both much pleasure, as it is new to our Garden. You did wonderfully well in your trip to Ben Lawers in so short a time. It must have been hard work however.—Yours very truly, Charles C. Babington.

To the Rev. T. A. Preston.

Cambridge, *Oct.* 23, 1865.

Dear Preston,—I have looked with much pleasure at the report of your Natural History Society. It is a very creditable production, and shews that you are getting on in the study of science at the school. May you go on and prosper. I think that your *Epilobium* is *parviflorum*. Nor do I fancy that there can be any doubt about the other being a runner of *Lamium Galeobdolon*.—Yours very truly, Charles C. Babington.

To Professor J. H. Balfour, M.D.

6, Belmont, Bath, *Dec.* 19, 1865.

Dear Balfour,—I have received your note, but the packet of plants remains at Cambridge. I return there, probably, next week for a few days, and will then try and find time to look at it, and give my opinion on the *Plantagos*. I have an attraction that keeps me here as much as I can during the cessation of work at Cambridge, and therefore, although going there upon business, I shall be here again as soon as I can, to continue during much of January. You will guess what the attraction is . . . . I had given up all idea of such an event happening, but they say that they are arranged in Heaven, and I must now believe it.—Believe me, my dear Balfour, very truly yours, Charles C. Babington.

We hope to be married at Easter.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *Jan.* 1, 1866.

Dear Preston,—Mr. Farrar has also written to me on the subject of the botany to be taught (or rather encouraged) in Harrow School. Unless they will take the trouble of teaching Natural Science they may almost as well leave it alone. I have written to him by this same post to say that Henfrey's "Rudiments" and Oliver's "Lessons" are the books for them: also sending a copy of my "Notes," and a schedule, and advising that some master should take up the teaching by means of the latter; giving out the plants and looking over and correcting and talking about the filled-up schedules. I hold that much more good may be done in this way than by any other that I can think of. It will teach the boys to be accurate in observation and language. He asked me to draw up a syllabus, but I have not done so, and do not see the use of it. Your remark is just—that the boys will use the text-book, and no syllabus. From what you say, I fear that their start is .too fast, and unless they make some arrangement to facilitate the study of Natural Science, they will not succeed. The boys will soon tire of it, if they have to find their own time for it, except of course the few who are really smitten with a love of it. I have looked at their scheme as drawn out in the letter to you, and wonder at it. What can they expect? Do they fancy that anybody will take in all these subjects in succession? If so, they will, I feel sure, be greatly disappointed. If they would try to get such boys as take an interest in some one or two subjects to follow them up (one rather than two) so as to attain a scientific knowledge of it, they might do well; otherwise I do not believe in success resulting from their doings. But certainly there must be some *teaching* or at least *help* given by the masters. One or more of them must make himself acquainted with Natural Science. I am glad to find that a move has taken place amongst the dry bones of Harrow and Eton; it may result in something good in due time, and I congratulate you as the cause.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *March* 14, 1866.

Dear Preston,—I have received the Second Report of your School Society, and am much pleased with it. If you can go on in this way you will succeed in causing the Natural Sciences to take root in the school. It gives me much pleasure to receive these reports, and hope that I may continue to be thought worthy of a copy on future occasions. You fancy that I have been lecturing this term, but it is not until next term that I do so. You find plants very forward; here it is not so; hardly any wild flowers are to be seen. I hope that I may have some by the middle of next month. I am sorry to say that I have not heard of any intended

translation of Maout's "Botany," and the book itself is out of print. It is a most valuable book in my opinion.—Yours truly, CHARLES C. BABINGTON.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *March* 20, 1866.

Dear Preston,—I think that the move which you have made will tend to the advantage of Natural Science study in the school. I certainly hope that it may. I shall at all times be very glad to assist in any way that I can, for I look upon the object as an excellent one. It is a great thing to have got over the fears of the other boys that the Society would be in their way. I think that your plan is quite feasible. A translation of Maout would also be of much use, and probably would pay. It would be well to learn if he is going to issue another edition soon, as it may very probably have many alterations in it. I do not think that the plates at the beginning are of much use, and incline to omit them. The woodcuts might be obtained from France for a consideration, and would be much less costly so than if cut anew. There might also be many minute points to consider where the text refers to plants of France, and not of England. But you will consider all these points before you commit yourself to anything.—Yours most truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *May* 31, 1867.

Dear Preston,—I do not see that I can make any observations with advantage upon the Essays. They seem likely to be of use as tests of the boys. I am glad to learn that the botanical class is good, although rather less in number. The Society seems to be most prosperous. I cannot visit the school at examination time so as to look over the papers. Of this I am sorry; for I remember the very pleasant visit made a few years since. But if I can do anything without personal presence, I shall gladly do it. Do you want any of the "Notes"? I have had to print a lot of them, and you may have fifty or one hundred copies at cost price if you wish What that price will be I cannot now say, as I have not had the bill. I have had a very good class this year (over sixty); and conclude on Monday next, except a trip to Newmarket on Thursday, and perhaps one to Hunstanton on Whit Monday.—Yours truly, CHARLES C. BABINGTON.

To J. T. T. BOSWELL-SYME, Esq.

SATURDAY (*No further date*).

Dear Syme,—I enclose the P.O.O. *Potamogeton longifolius.* I do not think that this is *P. praelongus.* It does not seem to me that even the floral leaves are really amplexicaule, as they seem decidedly

to narrow to their base, and those of the branches have mostly short, although very short, stalks. Nor is the tip hooded, as I have always found it to be in true *praelongus*; but terminates in a point like those of *lucens*. It seems also to have the winged stipules of that plant. But then its leaves are not minutely denticulate like those of *lucens*. I think that my account of the plant was taken from my Irish specimen. I have seen nothing like it from any place. I do not think that my specimen named "*longifolius* Gay" is *lucens*, as it wants the denticulation. It is Reichenbach, "Fl. *exsicc.*," No. 2501. I am sorry to say that *P. nigrescens* is wanting in my copy of the "Herb. Normale." I have what I believe to be true *nitens* from Sim, out of the Tay at Perth. It has not turned black; but then Moore's plant from Kerry has done so partially. . . . . I am glad to learn that you have the true *nitens* from Elgin and Nairn.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *July* 19, 1867.

Dear Syme,—I am very much obliged to you for so very kindly sending me the specimen of *Calamintha Briggsii*. I have planted part, and am drying part of it. It does look very different from *C. officinalis* and *C. Nepeta*, but I do not see any good character. Do you want a day here? I shall be at home until about the 8th of August, if you like to come.—Yours truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

5, TRUMPINGTON ROAD, CAMBRIDGE, *Oct.* 31, 1868.

My dear Sir,—What is the *Rubus* sent to the "Botanical Journal" by Bloxam as "very distinct"? Have I seen it, and expressed any opinion upon it? Could you conveniently send me a root of your *Viola permixta* for my Garden? I have what I believe to be the *Viola multicaulis* growing, and should like to see them side by side, especially as I have never, I believe, seen a bit of the *permixta*.—Believe me to be, yours very truly, CHARLES C. BABINGTON.

Send us a parcel by rail.

To the same.

CAMBRIDGE, *Nov.* 14, 1868.

My dear Sir,—I am much obliged to you for the roots (*Viola permixta*), all of which are planted. I am sorry that you paid the cost of sending them, as I should gladly have had to pay it. I am inclined to place the *Rubus Briggsii* with *R. fusco-ater* (the true plant), and think that it very closely resembles a plant from Henfield, which I place to that species, and Mr. Borrer names *nemorosus*. I am looking with much interest for Mr. Bloxam's description of *R. Briggsii*, which

I hope will be in the next "Journal of Botany." He and I not very unfrequently differ about Brambles. I incline to aggregation as far as it can be done, and I have what I think a complete series connecting your *R. Briggsii* and the *fusco-ater* of Birmingham. A parcel of your local *Rubi* will indeed be of value to me as an addition to my collection of about 600 British specimens.—Yours very truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Jan.* 5, 1869.

Dear Sir,—I hold the same opinion as before concerning the *Rubus Salteri* of Brixton. It is in my firm belief the *R. calvatus* (Blox.) certainly not the true *R. Salteri* of the Isle of Wight. Also the *R. foliosus* is that plant. I have what I believe to be *R. pyramidalis* from near Carclew, Cornwall; gathered the summer before last by myself. I am sorry that your paper will be too late for me to make any use of it, as I am printing my "British Rubi," and leaving the intended plates for a future issue. My artist has been so ill for the last twelve months that he has been unable to do anything with them, and now to wait would cause a delay of at least two years: so I issue the text as a volume of about 300 pages 12mo as soon as it is printed.—Yours very truly, CHARLES C. BABINGTON.

To the same.

LLANBERIS, CARNARVON, *Sept.* 1, 1869.

My dear Sir,—I am much pleased to find that you like the "Rubi." There are a few misprints in it which have unaccountably escaped notice, but do not very much matter, as they cannot mislead any person. I shall be much pleased to have any more remarks which you may do me the kindness to make. I did much suspect that *R. ramosus* might be *R. imbricatus*, but know next to nothing about the latter or the former bramble. I shall be very thankful for any help which you may be able to give me towards their identification or otherwise. I suppose that your form of *Lindleianus* is like what Leighton used to find at Shrewsbury, and which I think is the fully developed state of the species. It is probable that we shall in due time identify many more of the plants of Wirtgen and Genevier. The latter has lately published a book upon *Rubi* which I have not yet had time to examine with much care. It seems deserving of much attention. I am sorry that I have made the mistake about the abundance of *Briggsii*, and will correct it in my corrected copy. I am much pleased to learn that you find *pyramidalis* in "new localities," near Plymouth. Here I am in its head quarters. Doubtless *Pyrus scandica* is a true native with you, and I am glad that you have found it so satisfactory a locality.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To J. F. Duthie, Esq.

Cambridge, *July* 1, 1871.

Dear Duthie,—I congratulate you upon your discovery of *Polygala austriaca* on Wye Down, and thank you very much for the specimens sent to me. Fortunately, I was at home for a single day just in time to save them, and they are now nice dry specimens. I am glad that you had Newbould with you when you went again for them. I have had no communication with him for a long time, but suppose it is because he has no cause to write. Mrs. Babington desires to be kindly remembered to you. I saw Mills yesterday at Cockfield, near Bury; he is settled at Bury St. Edmunds as chaplain to the hospital and gaol. He seems much better in health than he was when here.—Yours truly, Charles C. Babington.

To T. R. Archer Briggs, Esq.

5, Brookside, Cambridge, *July* 13, 1871.

My dear Sir,—I am very much obliged to you for the nice specimens of *Viola permixta*, and also for the other specimens sent with it. I will examine the latter in due time, and write about them. I fear that I may not have time to do so at present. You will see a great matter made of *Siler trilobum* found near here. There are not more than eight or ten plants of it, and I think that it was put out by a former Curator of the Botanic Garden, who planted many garden plants in the neighbourhood where this grows. You will agree with me that we cannot be too cautious in admitting a doubtful plant like this as indigenous.—Yours very truly, Charles C. Babington.

To the Rev. T. A. Preston.

Cambridge, *Sept.* 19, 1871.

My dear Preston,—I have been thinking about your garden, and fancy that it would be best for you to make a *representative* collection, containing one or two species of each important genus, or very important section of a genus. It is useless to attempt anything like a complete collection, and the acceptance of *chance* species which may be offered you, would only uselessly take up the space. Of course I do not mean to exclude any plants that may have local or personal interest, and only lay down a general rule to go by. Such a collection would, I think, be of the most use of any to students. If you can draw up some list of that kind, we will do what we can to help you in drawing out the plan. Or if you do not like the plan, and wish for any miscellaneous species that we can send, we will do something for you in that case. I think that the *Siler* may have been at Cherry Hinton for thirty or forty years, and was probably sown by Biggs, the curator at that time. He is

understood to have sown many plants at Hinton, although very few of them seem to have remained; and I think that the *Siler* will not remain much longer. You will see that the poor old Master of Emmanuel College is dead: we wonder much if Fuller or Phear will succeed him.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. BALFOUR, M.D.

5, BROOKSIDE, CAMBRIDGE, *March* 5, 1872.

Dear Balfour,—The quotation is correct. Colonel Brown's remarks are in "Magazine of Natural History" (Charlesworth) I., 447, at foot of page. This is M.N.H. Ser. 2. I hope that you may succeed in finding some of the arctic forms of *Betula* in the Highlands. I fully expect it, especially *B. intermedia.* I am not bringing out a new edition of the "Manual" just yet, although I have gone over most of the present edition with the view to be ready whenever one is wanted. I think that you must look on the high parts of the mountains—in such places as *B. nana* loves—for the *B. intermedia*, and other arctic species. They might easily pass for stunted forms of the usual *Birches*, but present a look very different, if attended to. We join in the kindest regards to Mrs. Balfour and yourself.—Yours very truly, CHARLES C. BABINGTON.

To the same.

KELLY'S HOTEL, ROUNDSTONE, CO. GALWAY, *Sept.* 12, 1873.

Dear Balfour,—I am exceedingly obliged to you for the information which you gave me about the locality of *Erica ciliaris.* The day before yesterday we spent several hours in a very careful inspection of the ground on both sides of the road, and some little way (as far as I could well get) back from it, every rocky bank, and all turf banks, for at least one-and-a-half miles along the road near Craigie More. I could not find the least trace of that heath, nor indeed did I see any spot which seemed to me at all likely to produce it. There is plenty of *E. Mackaiana* scattered along the road-side, and the less wet spots, back from the road on both sides. The more I see of this heath, the more convinced I am that it is quite distinct from *E. Tetralix.* I think it is our most beautiful heath. Neither do I in the least believe that it is a hybrid. If *E. ciliaris* had been very abundant there, and also *E. Tetralix* (which although there, is very scarce), there might have been some excuse for the idea. But every thing is a "hybrid" now, if it causes any trouble to systematists in their studies and herbaria, and if there is the faintest excuse for considering it as one. I really do not know what to make of this matter about *E. ciliaris.* I am told that there is a specimen at Dublin; but if in our friend —— collection, I should place no trust in it; for he was of the old inaccurate school.

I know from himself that he kept next to no notes, and that his herbarium was to a large extent made up by the help of a "man from the garden," after he had lost the power of going after the plants himself. I know also that all the trouble about the name of *E. Mackaiana* was caused by his want of care. I gave him the plant first, also a name and description for his Flora; he sent the specimens without any name to Sir J. Hooker, and lost my notes, and forgot all about them. I mention this to shew his want of care, even at the time when he was collecting materials for his Flora, and just going to press with it. I felt hurt at the time, and it has caused trouble ever since. We have spent most of our time at Dublin and in Connemara, in visiting the schools and stations of the Irish Church Mission. We have had the great benefit of the company of Mr. Cory in all our visits, and thus have seen the inner working of the mission in a way which we could not otherwise have done. To-day we are going by sea to spend Sunday and Monday at Moyrus, the most secluded of the stations, with the Rev. Mr. Conerney, the missionary there. It is really more like visiting missions on the wild coast of Newfoundland than anything else to be met with on the British coasts. I am very much struck by the effects of the mission in this wild district, as well as in Dublin. The schools are admirable, and the number of adult converts remaining in the country not a few. A great many converts have gone to America. Who can wonder at it when we consider the life the peasantry live here, and the constant trouble to which a convert is subject amongst his Roman Catholic friends and family? I saw a letter a few days since from one who had gone to New England, and been lost sight of for some time. He writes to say, amongst other things, that he has got a little colony of Roman Catholic converts together at Boston,—some converted here, others in America. It was a most interesting letter from a poor illiterate man, and shews how much may be doing by the blessing of God, of which we know nothing, and a great encouragement to the workers in Ireland. There is a great change in the temper of the people out of the large towns. The priests have much less power, and the Protestant clergy are much respected, and treated quite differently to what used to be the case. What do you think of a clergyman of my acquaintance, and connected with the mission, being asked in a fair to separate two Roman Catholic men who were going to fight, and succeeding at once in doing it! When I formerly knew this district, he could not have attempted to separate them, except at the risk of his life, and totally without success. This is only one illustration of the change which has come, and is coming over the country. Let us pray God that it may be the harbinger of much success in drawing the people to the truth, and away from Rome. My wife desires to be kindly remembered to Mrs. Balfour and yourself. We leave this place on Tuesday the 23rd, on our way to Cambridge.—Yours very truly, CHARLES C. BABINGTON.

To J. F. DUTHIE, Esq.

5, BROOKSIDE, CAMBRIDGE, *Aug.* 13, 1874.

Dear Duthie,—I did not write, because the only address you gave me was "Woolwich," and I thought it almost certain that a letter so addressed would not reach you. The plants came safely, and I now enclose a P. O. O. for the sum mentioned in your letter. I hope that you will write the account of the Maltese plants asked by Trimen for the "Journal of Botany." My residence is the same house, but the name is altered. You must have had a very interesting visit to Braemar, especially as you had never been there before. You would see so many new growing plants. I did not know what you were going to do at Edinburgh, but am glad to find that it is so valuable a job. I wish that I had you or some one like you here to do the same for us. I am so short-handed that I seem to make no progress. I suppose that you are paid for your work at Edinburgh—may I ask at what rate?—as it will be a guide to me if I should succeed in getting similar help. Once I spent some weeks over part of that same collection, when a great part of it was at the top of the College in the rooms of the Botanical Society. I believe that I gave a great start to the then Curator of the Society. My pay was duplicates, of which I got a very large quantity. Crotch is indeed a sad loss. He never could be got to take any care of himself, and we all thought that he had better have remained here where he was doing valuable work. My wife desires to be most kindly remembered to you.—Very truly yours, CHARLES C. BABINGTON.

To the same.

120, MARINA, ST. LEONARDS-ON-SEA, *Oct.* 8, 1874.

Dear Duthie,—I think that the ticket of *Carex pulicaris* is in the hand of the Rev. Leonard Jenyns (now L. Blomefield), but believe that it did not rightly belong to *Carex ericetorum*, the specimen of which probably came from *me* or from John Ball as *C. pilulifera*. Mildenhall Heath is not at all a likely place for *C. ericetorum*. There was very great carelessness in the British Duplicate department, some years since: I could name the men in fault, but will not do so. I should never trust the old tickets in any doubtful case, and should recommend the destruction of the greater part of the old duplicates obtained from the Botanical Society. As far as I can remember, the date of the *Carex* being first gathered was 1833, but I believe it is stated in the Suppl. "Eng. Bot." 2971. I am glad to hear of the discovery of *Carex frigida*, and must beg to be remembered if a specimen is to be had. The *Salix* is of less interest. I hope that Syme or you will take care to publish these facts. I am glad to say that my wife is getting better, although very slowly. The fall was a very serious one. I return the labels.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To Mrs. Barwell Carter, *The Anchorage, Berwick-on-Tweed.*

5, Brookside, Cambridge, *April* 19, 1875.

Dear Mrs. Carter,—I am much pleased to receive a letter from one of the old Berwick family from whom I have so long been separated—ever since the death of your excellent father.* I have very often thought with much pleasure of the old time when I passed such pleasant days at Berwick, and not only pleasant, but very profitable, from the valuable information conveyed to me by your father. I am glad to learn that you have gone back to live in the old house of which I have such pleasant remembrance. I enclose a photograph, which I hope will please you. I think that it is a good likeness—although very unlike what I used to be so many years since as when I was last at Berwick, otherwise than in passing by rail. I think that I have some letters from your father—although I fear not very many. Such as I have shall be looked for in a few days and sent to you. Just at this moment I have not time to do so. I think that I have before seen the notice of your mother, but thank you much for sending me a copy of it. Please to convey my kindest remembrances and best wishes to Dr. Maclagan.—And believe me to be, very truly yours, Charles C. Babington.

To the same.

Cambridge, *May* 6, 1875.

Dear Mrs. Carter,—I have found a few of your father's letters to me. I thought that I had more of them—but this is all. Some are interesting, as relating to the foundation of the Ray Society. I hope that there is some idea of using them in a memorial of your father, and of course you are at liberty to make such use of them as you may think fit.—Yours very truly, Charles C. Babington.

I was quite young when I visited your father. I was born in 1808.

To T. R. Archer Briggs, Esq.

5, Brookside, Cambridge, *Oct.* 18, 1875.

My dear Sir,—I like your *Rumex rupestris* very much, and find it agrees well with the plants of the French north-west coasts. Trimen tells me that he has received it also from Scilly. My Jersey plant is the same. The large *Rumex* from Downderry is more difficult to determine. I know very little of *maximus*, and am now led to suppose that it may not be distinct from *Rumex Hydrolapathum*, as the base of the leaves is said to be inconstant in form. Many thanks for the other plants—all of which are very valuable to me.—Yours very truly, Charles C. Babington.

* Dr. George Johnston.

To T. R. Archer Briggs, Esq.

5, Brookside, Cambridge, *Feb.* 19, 1876.

My dear Sir,—I do think that the accidental plant is *Atriplex rosea*, and I do not think that —— is much to blame for naming it *Chenopodium glaucum*. If I am to determine *Rubi* I hope that the specimens will be reasonably good and perfect. I think the club should see to this, and reject all bad specimens of *Rubi*, as they convey no information to those not well acquainted with the plants, even if they do so to any person whatever. I often have to throw away many specimens that come to me, as quite useless for study. As to a parcel for me, I have only to say that I wish for any *critical plants* that may come to hand, or plants from quite new places, or naturalized plants especially. It is quite possible that your *Senecio* may be the *v. radiatus* of Koch, which I now think is not my plant of Nov. Fl. Sar. 53. I have looked at Nolte 71, who himself gives it up, as also does Fries. You will see in "D.C. Prod." vi. 343 that he places *denticulatus* (Müll.) under *lividus*, and says "Habitus S. vulgaris—Ex Müll. invol. squamae intactae et ligulae revolutae; ex Reichenbach, et spec. Wallr. invol. squamae distincte sphacelatae et ligulae patentes." Drejer says that the *denticulatus* of Fl. Dan. is made up of a form of *S. vulgaris*, and one of *S. sylvaticus*. We must therefore carefully avoid that name. I do not think these plants of very much scientific interest, as the ray is there I think at all times, and is only longer or shorter.—Yours truly, Charles C. Babington.

To James Backhouse, Esq., *York*.

Cambridge, *March* 21, 1876.

My dear friend,—I am now almost certain that your plant is that of W. Wilson, and have always believed that he got his at about the spot pointed out by you. It is a very remarkable plant, and well deserving of more attention than it has ever received. My knowledge of it has been nothing, until my recent discovery of Wilson's specimens in Henslow's collection, and they are not good. That which you sent to me to look at is far more distinct in look from the *Cineraria campestris* than they are—being in far finer condition. Smith was inclined to separate them, but for the variable character of their allies. I do not know what to say to it; but we want much more abundant materials from which to form a sound opinion. How complete a return of winter we have had of late. I fear for the fruit, as some of the trees have opened their flowers and of course suffered.—Yours very truly, Charles C. Babington.

To J. F. DUTHIE, Esq., *Director of the Botanical Garden, Saharanpur, N. India.*

CAMBRIDGE, *April* 22, 1876.

Dear Duthie,—I congratulate you upon the Indian appointment. I believe that it is a very good one. It is, however, a disappointment to me, as I had hoped that we might have had you here: especially now that there is a great probability that the post will be constituted very soon. I must look out for some one else, but it would have been so nice to have had an old friend to work with me. When do you start? When that is settled let me know, as I may be able to give you some introduction to some one in that part of India.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To JAMES BACKHOUSE, Esq.

CAMBRIDGE, *June* 6, 1876.

My dear friend,—I think that your *Viola* is the plant which probably ought to be called *lancifolia* (Thore), although the *lactea* (Sm.) is a form of the same variety or species. The colour of the original *lactea* is a rare state of the plant, and the rooting stems represented in "English Botany" are, I think, certainly incorrect. These forms of *V. canina* are very difficult to arrange under any definite names, as the leaves and flowers vary very considerably. The nomenclature in books is most confused. I hope that the *V. arenaria* is not gone from Teesdale, but suppose that, happily, a man who lately could not find it only did not find the right place. He failed also in finding the *Polygala uliginosa*. It is well to keep the exact spots private in this extirpating age. *V. stagnina*, which we feared was lost, has been seen abundantly about twelve miles from here lately.—Yours very truly, CHARLES C. BABINGTON.

To ARTHUR BENNETT, Esq., *Croydon.*

CAMBRIDGE, *June* 9, 1876.

Dear Sir,—I do think it probable that you found the *Chara** *flexilis* and *syncarpa* from what you now tell me. I am glad to learn that the *Arthrolobium* has been again found in Scilly. It is often very difficult to find, even where it is growing. I shall be always happy to help you in any way that I can.—Yours truly, CHARLES C. BABINGTON.

To JAMES BACKHOUSE, Esq.

CAMBRIDGE, *June* 19, 1876.

My dear friend,—My specimens of *Pinguicula leptoceras* are not good, and I have failed in seeing the points of difference noticed in authors. Grenier considered it more near to *grandiflora* than *vulgaris*. I think that as you have the living plants, it must fall to you to work out the distinctive characters. But I incline to the opinion

* *See* "Manual" *Nitella.*

that the Teesdale plant may be the *leptoceras*, which I see is found as near to us as the Jura, and is therefore not absolutely out of distance for us. The remarkable difference in the rosettes is certainly very worthy of attention, and of course escapes notice in the dry plant. The other characters also are difficult to see in that state. I see that Grenier gives *grandiflora* in place of *leptoceras* as the Jura plant. In his Flora he says nothing of the latter name, which he recognized in the "Fl. de France." This makes matters worse.—Yours very truly, CHARLES C. BABINGTON.

To JAMES BACKHOUSE, Esq.

CAMBRIDGE, *July* 1, 1876.

My dear friend,—Your *Cystopteris* is very near *Dickieana*. I have placed it beside an original wild specimen from Dr. Dickie, and am not prepared to separate them. But I think that the venation may separate it, and the *alpina* of Teesdale (from you), and the Low Layton plant, from *fragilis* (*anthriscifolia*), and *dentata* of Smith. Of course the two former can hardly go together. We are told on good authority that the spores of *Dickieana* are verrucose, and those of all forms of *fragilis* spinose. Newman states this on the authority of Mr. Wollaston, and Milde ("Filices Europae," 151) says the same; but he may be only copying Newman. He divides *fragilis* into two marked series by the form of the tip of the pinnules and the position of the end of the midvein. His book is a valuable one, and of much weight on all such points. I then incline to think that *Dickieana* must be distinguished from *fragilis*, and that you have found it in its true native places on the mountains. What is to be done with your *alpina* from Teesdale, of which you gave me a scrap in 1871, I am not prepared to say. Certainly it is exceedingly like a bit of *alpina* from Low Layton, Essex. Is it abundant in Teesdale?—Yours very truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Nov.* 20, 1876.

My dear Sir,—*Trifolium agrarium.* There is extreme confusion in the naming of these plants by different authors. I think with Koch and Des Moulins that *agrarium* = *procumbens* of Smith, and has two forms, (*α*) *campestre* D.C. and (*β*) *procumbens* D.C., the *campestre pseudo procumbens* of Boreau. The differences between them are exceedingly small, scarcely enough in fact to enable Boreau to distinguish them. The *Mallow* seems to be now naturalized in your district. It is quite clear that *Geranium striatum* has come from the Gardens. I have written to Mr. Bromwich about *Rubus Leesii*. I have little doubt about its being the *Idaeus-anomalus* of Arrh. and it will probably enable us to reduce *Leesii* to that species, as I shall be glad to do.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. W. H. Purchas.

5, Brookside, Cambridge, *Nov.* 30, 1876.

Dear Purchas,—It is indeed a considerable time since we had any communication. The loss of our dear friend at Ellastone* is indeed very great, and has caused much sorrow to my dear wife and myself. She had known him intimately from her childhood. I am sorry to say that she is not in good health. She fell down stairs more than two years since, and has not been well since. She cannot walk more than a very few yards, and has had to give up much of the good work which she was doing in this University and town. Still, we believe that it will please our Almighty Father to restore her to health in time. On her account we have spent the last two summers at Cromer, on the coast of Norfolk. I have neither seen or heard anything of the Lingwoods for, I am sorry to say, a very long time. The last I heard of them was that he had let his house, and was living at Cheltenham. I have lately obtained, by purchase through the trade, a considerable number of specimens of *Rubi* and *Roses* sold by Bloxam. I have not yet looked them over, more than to shew me that there are some specimens likely to be of interest to me. I am curious to see your new Rose and Bramble. I hope that Baker will publish an account of the one, and Bloxam of the other. Manuscript unpublished names are likely to cause much trouble. I do not think that I have seen your Derbyshire *Rosa involuta*. I cannot find any county history of Huntingdonshire, and believe that there is not one. With our united kind regards to Mrs. Purchas and yourself, I am ever, most truly yours, Charles C. Babington.

To Alfred Fryer, Esq., *Chatteris, Cambs.*

Cambridge, *Dec.* 1, 1876.

Dear Sir,—I am indeed very much obliged to you for the full list of plants in District vii. I am glad to find that *Sedum album* still remains at Chatteris. It is curious how the *Verbascum Blattaria* came to your county. It is very wise of you to take so much care not to mark any plants of which you have any doubt. It is really a most interesting list, and I hope that you will be able to find time to continue it. There must be many grasses and *Carices* to be added. Should you be in Cambridge, I shall be right glad to make your personal acquaintance.—Yours very truly, Charles C. Babington.

To the Rev. W. H. Purchas.

Cambridge, *Dec.* 13, 1876.

Dear Purchas,—I am very much obliged to you. I shall soon examine the Rose and Bramble very carefully. I wish Bloxam

* Sir Christopher R. Lighton, Bart.

would publish these new things which he names, that we might have his own ideas of their characters. I should much like to know how he distinguishes *Purchasii* from *tuberculatus*, for I cannot.—Yours very truly, CHARLES C. BABINGTON.

To J. T. T. BOSWELL-SYME, Esq.

CAMBRIDGE, *April* 13, 1877.

Dear Boswell,—I do not see how to separate the *Atriplex rosea* from West Sussex and Cornwall from the *A. laciniata* of Smith. It is certainly not my *A. rosea*, nor anything like it. I think that you may safely call Woods' *arenaria* and Smith's *laciniata* = *A. farinosa* (Dum.). The dates are:

A. farinosa (Dum.). "Prod. Fl. Belg." 20 (1827) "Bull. Soc. Bot. Belg." vii. 323.

A. arenaria (Woods). "Tourist's Flora." 317 (1815).

I have been looking carefully at the specimens in question, and also at the British and continental specimens which I have, and certainly see no cause to doubt their being *farinosa*. They are not the *laciniata* of Koch, and certainly they have nothing to do with my *rosea*, nor the continental plant so named. Certainly I do give Dumortier's name to the "totally distinct" *A. arenaria* (Woods), which so far from being totally distinct I believe to be identical. I feel quite sure that our English *laciniata* is the *farinosa*, and why these specimens with their diffuse stems and nearly smooth calyxes are called *rosea* I cannot understand. What do you call these Cornish and Sussex specimens? I think that the *Arctium* from Balmuto is *minus*, but different from that from Hoy. I find two specimens in my collection from you in 1873 (Balmuto) sent as *minus*, which I call *nemorosum*. I may have told you that I considered them to be *minus*, as I had not altered the name, although I had placed them with *nemorosum*. I think therefore that you have both *minus* and *nemorosum* at Balmuto. Many thanks for the information about *Rubus saxatilis*. I was giving up the Supplement to Syme's "English Botany," and am very glad to learn it is going on.—Yours very truly, CHARLES C. BABINGTON.

To ALFRED FRYER, Esq.

5, BROOKSIDE, CAMBRIDGE, *May* 9, 1877.

My dear Sir,—Stalked primroses are not very uncommon. It is only that the common peduncle, which always exists, although very short, has grown up. There is no hybridity here, nor is it in any way to be confounded with *P. elatior*. It seems very much as if you had found *Carex strigosa*. Please to look for the plant later, when the fruits are developed, and then let me see it. In this early stage it is very difficult to determine. We always want the well-advanced fruit, to be quite sure of a rather difficult *Carex*. *Myosurus* growing nicely in a pan.—Yours very truly, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

CAMBRIDGE, *May* 31, 1877.

My dear Sir,—I do think that your *Callitriche* is *obtusangula*, although I have not softened the fruit so as to see its formation. The best tract on *Callitriche* is "Hegelmaier, Monographie," but it is mostly in German, with a little Latin. It has beautiful plates. A small 4to book of 64 plates. I fear that you cannot get Nordstedt and Wahlstedt. I have it not.—Yours truly, CHARLES C. BABINGTON.

To the same.

5, BROOKSIDE, CAMBRIDGE, *June* 5, 1877.

My dear Sir,—I am glad to hear that the *Callitriche obtusangula* is being found in many places. Of course that is what we had reason to expect. The question about *Chara** *syncarpa* is the presence or absence of the *mucilaginous coat* to the nucules. I presume that the three plants are always dioecious, and I do not know of the characters of the globule-bearing plant, nor if we have those with naked and clothed nucules. I see that I am making a mistake; the characters are as I have them in MS. taken from books: (1) *syncarpa*, nucules and globules coated with mucilage, spires of nucules broad, flattened, faintly separated; (2) *capitata*, similar, but the nucules with rather acute spires; (3) *opaca*, nucules and globules naked, spires prominent. If you have fresh fruiting specimens I should be glad to see some of them. I find myself quite unable to determine these plants from dry specimens. But I want to direct your attention to these points when you find the plants.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 8, 1877.

Dear Sir,—I have never seen a *Nitella* without the coat; but *opaca*, to which Braun refers, "English Botany," 1070, from Cwm Idwal, ought not to have it. My specimens from that lake are without fruit. I have specimens from Llyn Coron in Anglesea, which are either *opaca* or *capitata*. I suspect the former, as it has the right nucules, but may or may not have had the coat. Your Ashstead plant appears to be true *syncarpa*, and that from Mitcham *capitata*; but here again we want information about the coating. Look at the nucules. I have a duplicate copy of fasc. I. and II. of Braun, Rabenhorst, and Stizenberger's "Characeae Europeae," which are at your service if you do not possess them. But I have only single copies of fasc. III. IV., which were published at Dresden in 1867 and 1870. I have also Wahlstedt's "Characeae Scandinaveae," published at Lund in Sweden in 1874, and some previous years. I do not know if any of these are now to be obtained, but fear not. Neither do I know of anyone working or much interested in *Characeae*. They have never been favourite plants with collectors. Yours very truly, CHARLES C. BABINGTON.

* *See* "Manual" *Nitella*.

To ——

CAMBRIDGE, *June* 28, 1877.

My dear Sir,—I send my notes on the interesting parcel from the Exchange Club. I have only recently had time to go carefully over the specimens, and send my notes upon them for you to use as you see fit.—Believe me to be, yours truly, CHARLES C. BABINGTON.

BOTANICAL EXCHANGE CLUB, 1877.

Rubus incurvatus. Anthony, Port Wrinkle. I doubt the Trematon and Roborough plants.

R. pallidus is, I think, a form of *R. Koehleri a.*

R. pallidus from a lane near Cutmere Bridge, St. Germans, I believe to be *R. Lejeunii.*

R. Borreri of Warren, I think with you is *R. macrophyllus*; but also that your Hay Lane plants are likewise *R. macrophyllus.* I cannot see their relationship with *R. Lindleianus.*

R. pyramidalis. I do not see that this is "off the type," for I have seen plenty like it in North Wales. It is very interesting to find that the plant is so abundant near Plymouth.

R. Güntheri. Certainly this is not my *Güntheri*, nor do I think that it can be that of Genevier. It is very like the *R. atro-rubens* (of Wirtgen) of Bloxam, which I suppose is also the *R. exsecatus* of Müller.

Ranunculus floribundus from Brockenhurst I think is *peltatus*, not *floribundus.*

R. Baudotii. The Duddingston Loch plant is this, as Mr. Hiern thinks. The Scilly plant I think is also *Baudotii.*

R. pseudo fluitans. I hardly think that this is the *penicillatus.* It seems to me to be only a form of *heterophyllus.*

R. radians. Both of Mr. Harb. Lewis' plants I believe to be forms of *heterophyllus*, not *radians.* I say the same of Mr. Baker's two plants from Warwick.

R. triphyllos from Mitcham. Mr. Groves. If this is indeed the *triphyllos* of Hiern, his idea of it is very different from mine; I call it *heterophyllus*, and in a not uncommon form. No doubt Mr. Warren's plant is the same.

R. salsuginosus. Probably correct according to Hiern's nomenclature, but a state of *confusus.*

R. Bachii. Mr. Brotherton. Is *R. confusus.*

R. elongatus. Mr. Brotherton. Is, I think, *peltatus.*

R. radians of Brotherton. I agree with Dr. Boswell and say *Godronii.* I am sorry to find that I have made so much alteration in the above names. I cannot at all understand "London Catalogue," edition 7, in this subgenus.

Fumaria Boraei, intermediate of Brotherton. Are they not really *pallidiflora a*?

F. Boraei from Yetholm I am inclined to think is *confusa*, but have some little doubt.

F. Boraei from Mr. Burton I agree with you is *muralis.*

F. pallidiflora from Hutmacher I also agree is *officinalis.*

Lotus tenuis from Harrogate I doubt. It is generally a long straggling plant, not at all like this.

Tordylium maximum. May it not have been introduced lately at Tilbury, where many things are loaded for conveyance by the railway?

Helosciadium Moorei. What is meant by this? It seems to me to be only *H. inundatum* on mud, not in water.

Arctium nemorosum. Both right.

Hieracium Dewari. Where is this described?

H. pratense. I have this growing, by Mr. Christie's kindness. It seems the true plant, and the *H. dubium* of the "Manual," edition 7.

Crepis nicaeensis. Has not this been introduced with seed?

Carduus setosus. No. It is a plant which I have seen several times, and which appears in the "Manual," edition 1, as *β latifolius*, but I have long since considered it unworthy of distinction, even as a variety.

Rumex Hydrolapathum var. from Mr. Varenne. Is not this *R. maximus*? That is a plant I know very little about.

Trichonema Columnae. I am glad to find that this is still to be found. I had been told that it was extirpated.

Zannichellia polycarpa from Belfast. Very interesting. Is Warren's Sussex plant the same?

Chara aspera. I cannot believe it. Surely it is only *C. hispida.*

To ALFRED FRYER, Esq.

DOVERCOURT, *Sept.* 27, 1877.

Dear Sir,—I hope to be again at home some day next week. I thank you very much for the information contained in your letter. Living plants of the *Limosella* would be of no use to me, as I fear that I could do nothing with them. Have they flowered? If so, please to dry one or two good specimens for me. It would be as well to keep plants of the seedling willows transplanted, to see into what they will grow. The cleaning out of lodes and ditches is an admirable time to get plants which have been recently lost to the country. I hope that you are keeping a complete list of the plants found in your district, as it may be of much use in due time. Yours, and the adjoining fen districts have only been partially worked, and I am therefore exceedingly glad that a botanist who lives in one of them has taken the making of a careful list in hand. You have been most successful hitherto. I should like to see you at Cambridge, on some day that may be convenient to you.—Yours very truly, CHARLES C. BABINGTON.

Please also to keep *Lactuca Scariola* for me, and any other interesting plants. I shall be most thankful for them for our herbarium.

To HENRY GROVES, Esq.

CAMBRIDGE, *Oct.*, 1877.

My dear Sir,—The *Chara fragifera* (Duv.) is described for the first time in the "Bull. Bot. France" VI. 187. It has been detected by Mr. Ralfs, near Penzance, and is apparently not uncommon in the western part of Cornwall. It is a beautiful plant. As I have only just returned home after an unusually prolonged absence, I have not examined your *Charae* sent on August 16. I will do so now very soon, but I find an accumulation of work to be done now. Your plant from *Birkinhirst* (?) is certainly very like the *fragifera*, but requires a careful examination. The very curious root-bulbs of *fragifera* are not these.—Yours very truly, CHARLES C. BABINGTON.

To Professor J. H. Balfour, M.D.

Cambridge, *Nov.* 13, 1877.

Dear Balfour,—I have great hopes that early in the spring the University will at length give me the pay of an assistant curator of the herbarium, (I am ex-officio curator) where there is a great deal of arranging work to be done—which has not been done through lack of skilled hands to do it. I do not know exactly what they will allow me, I asked for £150 per annum, but they may probably not allow me more than £100. Now if I get such a grant, do you think that you could find a student to take the post? A man who would submit fully to me, and work well. He could enter in the University, and pass through it so as to obtain a degree. Of course to do so, he would require to have had a good school education, and be diligent. But he would have plenty of time. Men have done so in the Chemical and Geological departments: so why should one not do it in the Botanical? The pay would cover a large part of his expenses as an "unattached" student. Will you think of this for me, as I should like to be able to say that I have a fit man to take the post if it is established. Mind, it is not yet established, and was refused about a year ago: but now I have good hopes. I hope that you are all well. With our united kind regards to Mrs. Balfour and yourself.—I am, yours ever, Charles C. Babington.

To Henry Groves, Esq.

Cambridge, *Dec.* 5, 1877.

Dear Sir,—I do not understand people making sections of Batrachia, "with and without floating leaves." There are no such sections in nature. I do not think there is one form which may not under *rare* circumstances have flat floating leaves, unless it is *circinatus*.

No. 1. *R. tripartitus-intermedius.* I think that this is the *R. triphyllos* (Wallr.). I have placed my rough notes of it in the packet with the specimens for your perusal.

No. 2. *R. peltatus*
No. 3. *R. peltatus* } *Batrachium truncatum Durn.*

No. 4. *R. heterophyllus* I quite think.

No. 5. *R. heterophyllus* apparently.

No. 6. *R. heterophyllus.*

No. 7, 8, 9. *R. heterophyllus.*

No. 10. *R. Drouetii.*

No. 11 and β I think are both *R. heterophyllus.*

No. 12 I have no doubt is the form of *heterophyllus* without floating leaves, my β.

No. 13. *trichophyllus.* The peculiar colour and look of the leaves is almost, if not quite, conclusive as to the name of this. I

never saw *Drouetii* other than *bright* green, or *trichophyllus* other than dark green.

No. 14. *R. heterophyllus submersus.*

No. 15. Not *triphyllos*, but one of the many forms of *heterophyllus*. I hope that these notes will meet your wishes, although the names are not exactly such as you expected.—Yours very truly, CHARLES C. BABINGTON.

If you have a duplicate of *R. triphyllus* I should be glad of it.

To the same.

CAMBRIDGE, *Dec.* 24, 1877.

My dear Sir,—Many thanks for the beautiful set of the *Ranunculus* from Satley. My former specimen was single, small, and incomplete. What I have now received convinces me that it is not *triphyllos* (to which Hiern erroneously quotes St. 67, 7), but the *tripartitus* (D.C.) (to which Hiern again quotes the same figure correctly), of which there is a good figure in Reichenbach, Vol. III., pl. 2. It does not seem to be a recorded British plant, as my former *tripartitus* is *intermedius*. I have also the true *triphyllos* from Guernsey (Braye du Valle), and co. Kerry in Ireland. What Baker named *triphyllos* in 1854 is apparently a form of *Baudotii*. I have a specimen of *triphyllos* from Boreau, which is no doubt correct, and is not your Satley plant. I have also *tripartitus* in Billot's "Exsiccata," (No. 2403) which is your plant. Your specimens can hardly be said to shew the submersed leaves, as they have nearly all rotted away. This is all that I can say about the plants at present, but I am still busy with them.—Yours truly, CHARLES C. BABINGTON.

To J. E. BAGNALL, Esq., *Birmingham.*

5, BROOKSIDE, CAMBRIDGE, *April* 8, 1878.

My dear Sir,—I think that I have specimens from Mancetter of what Bloxam allowed you to name *Rubus rubicolor*, and so need not trouble you to send your authentic specimen to me. If you get others in the autumn I should indeed be glad of one. It is very unfortunate that Bloxam put so imperfect a specimen into his "set," as he called it. By his "Fasciculus," I understand a collection issued by him some years since—not this one. He called *that* a "*Fasciculus*," and advertised this as a *Set*. I am sorry to learn that Bloxam's herbarium and duplicates are to form *one lot* for sale. Probably there would have been some competition for his *Rubi* and *Roses* if separately sold. Now the whole will not come to any of us. I hope it may get into some public Museum.—Yours very truly, CHARLES C. BABINGTON.

To ——

June 21, 1878.

BOTANICAL EXCHANGE CLUB, 1878.

Ranunculus fl. Bachii. No. True *R. fluitans.*

R. truncatus is synonymous with *R. peltatus*, not a variety of it.

R. elongatus. I agree with J. T. B. Weak *R. peltatus.*

Chelidonium laciniatum of course an escape at Kew.

Corydalis solida. Is this a native?

Fumaria Boraei. Richmond, Yorks. I incline to think this true *Boraei.*

Brassica Rapa, etc., a most valuable set from H. C. W.

Nasturtium siifolium is only a large state of *N. officinale.* This is scarcely large enough.

Draba verna. I cannot distinguish the forms as given with beautiful figures in Jordan's "Icones." Doubtless we have many of his twenty.

Alyssum incanum. I suppose an escape in both places.

Viola permixta. I continue to have much doubt and difficulty about these plants. Jordan finds a difference in the form of the leaves between *V. permixta* and *V. sepincola.* I do not find any difference between the specimens sent, and all name *V. permixta.*

Viola from Scilly. Mr. Ralfs. It is certainly, as Mr. Baker thought, very like.

V. parvula (Linn.), but seems to be too much branched. My Sicilian specimens of *V. parvula* are nearly simple, as described by Gussone; ours are all much branched. But other specimens from Sicily, named and distributed by Huet du Pavillon, are exceedingly like ours, and branched.

Aremonia agrimonioïdes is, I suppose, an escape from cultivation.

Pyrus Briggsii. Many thanks for the nice set. My *Pyrus* wants re-writing for the "Manual."

Carduus-nutanti-crispus is near typical *C. acanthoïdes.* The down on the under-side of the leaves is usually more abundant than it is said to be in my "Manual."

Sonchus lacerus. An interesting form of *S. oleraceus.*

Hieracium lasiophyllum. Differs considerably from my plant. Far nearer *H. pallidum*, if not really it.

Tragopogon porrifolius is really not native. Being on a railway embankment is against it.

Verbascum phlomoïdes. Another of the Kew escapes.

Linaria repens v. *hybrida.* Why are these considered as hybrids, and with what parents?

Mentha pubescens. I call *M. hirsuta* (L.), and do not separate the forms given in the "Students' Flora," even if they are distinguishable from *M. aquatica.* If distinguished, this seems to me nearer *M. hirsuta* than *M. pubescens.*

M. sativa. The forms of this are scarcely distinguishable, if worthy of it.

M. vulgaris. I do not know that name. Is it not *M. piperita*?

M. cardiaca. I think not.

Thymus Serpyllum from Mr. Brotherton. I doubt if the two bits are from the same plant.

Chenopodium serotinum (Linn.). This seems very near to *Ch. ficifolium*, but somewhat different. I am surprised to see Hooker has had difficulty in defining *Ch. ficifolium.*

Rumex (hybrid). I wish Dr. Boswell had given us a root leaf of this, as you have not seen any ("B. E. C. R.," 1872—4, 34), and he has the plant in cultivation.

Calamagrostis Hookeri. Who has given this name, and why?

Triticum acutum from Leith. Certainly not. Why not *T. repens*?

Chara fragifera. I have now an admirable series of this beautiful plant.

C. flexilis. This I had from Mr. Groves, from the same place.

*C. syncarpa.** I am not quite prepared to say that this is the typical plant. May be *C. opaca.* We must attend to the fresh state to see if the characters are correct, viz.: (1) *syncarpa*, nucules and globules coated with mucilage, spires of succules broad, flattened, faintly separated; (2) *capitata*, similar, but succules with rather acute prominent spires; (3) *opaca*, nucules and globules naked, spires prominent.

C. crinita from Swan Pool, differs considerably from my specimens from Burdoch Pool. I think it may be only a form of *C. foetida.*

C. foetida from the Lizard is curious, and worth more attention. It may be different, but I cannot now settle that point. It is apparently the plant from near Kynance Cove, which I named *C. f. var. densa* of Cosson last year. It is more like Cosson's figure ("Atl. Fl. de Paris," p. 37, f. 8) than the Kynance Cove plant.

C. hispida. "Shallow pool on Downs, Lizard," is *C. polyacantha* I believe. I so named what is apparently the same plant for Mr. Ralfs, from "rivulet on Lizard Downs," last year.

C. aspera. I so named this plant for Mr. Groves last year. It is I believe the *C. aspera v. capillata* of A. Braun.

C. fragilis. "Stagnant pool near Land's End," from Mr. Waterfall, is I quite think *C. fragifera.* [As also is probably a plant which Mr. Townsend got at Tresco, in Scilly, in 1862].

Rubi.

R. Bloxamii. Of course this plant from Marsh Mill is not typical. A specimen of the same from Crabtree, collected in July, 1865, is marked in my herbarium as authentic *R. rhenanus* (Müll.), on the authority of Genevier. I cannot find any description of *R. rhenanus*, and have no foreign specimen of it. It differs in several respects from true *R. Bloxamii*, of which I have a good series before me from Lees and Bloxam, by its much more hairy stem, indeed, hairiness throughout, but especially by its beautiful pyramidal, open, nearly naked panicle, with long corymbose few-flowered branches, which are quite simple in their lower part. It should not go out as *R. Bloxamii* without note or comment, as it would convey a wrong idea of that plant.

R. tuberculatus. Not my plant: nor much like it. It is very like *R. Balfourianus*; especially resembling a plant so named by me in the herbaria Borrer, from Eridge Wood, near Tunbridge Wells; indeed, almost the only difference is found in the more furrowed stem of the Kew plant now issued. The lower part of the stem of typical *R. Balfourianus* is not furrowed, although its upper part often is so. I have never seen it with so furrowed a stem as in this from Kew.

R. fusco-ater. This plant from Bromsgrove Lickey is *R. Koehleri γ. pallidus.*

R. scaber. I think that this may be correct. Its very slightly armed stem is remarkable, and in that respect I have nothing like it.

R. hirtifolius. I have a specimen of *R. hirtifolius* (Wirtg. "Herb. Rub.," Ed. 1, No. 173), which is very much like this. But Focke thinks that published specimen doubtful. He thinks that it may possibly be a form of the *R. pyramidalis* (Kaltenb.), but I can hardly agree with him, with his own specimen of the latter ("Rub. Selec.," 65) before me. That has, as he

* See "Manual" *Nitella.*

describes it, a truly pyramidal panicle with patent branches; not like your plant, and the above 173. By "folia subtus subvelutina," Focke appears to mean what I should describe as "hairy only on the veins." Your plant seems to be very near to *R. amplificatus* (Lees), *R. stereacanthus* (Müll.), neither of which are I think noticed by Focke. I was probably wrong in identifying *R. umbraticus* (Müll.) with *R. amplificatus*; as Focke is probably correct in joining that to *R. pyramidalis* (Kaltenb.). My specimens of *R. umbraticus* are from Wirtg. ("Herb. Rub.," Ed. 1, IV. 82) and Boulay (No. 9), both apparently authenticated by Müller. I need hardly add that my *R. pyramidalis* is a totally different plant, which Focke considers as near to his *R. myricae*, but can hardly be correct in doing so. But I have not seen any specimen of *R. myricae*.

R. fusco-ater from Heslington is *R. Koehleri a.*

R. derasus. I do not consider this to be the plant so named in my "Manual," which I now call *R. adscitus* (Genevier). I think it is *R. carpinifolius*. I cannot find that I have ever had a specimen from Mr. Harbord Lewis. The presence of a few setae and aciculi renders this determination a little doubtful, but probably we may easily lay too much stress upon that character. I think it very likely that all my *Sylvatici* may sometimes have a few setae and aciculi.

R. pyramidalis from Eaton Bishop is certainly not the plant so called by me, and I think that Mr. Briggs has justly called it *R. hystrix*.

C. C. Babington.

To Frederick Townsend Esq., *Honington Hall, Shipston-on-Stour.*

Cambridge, *Dec.* 7, 1878.

Dear Townsend,—Your friend has indeed sent you a bad specimen of *Hieracium*. I cannot be certain about it, but incline to think that it may be *H. strictum*. I do not think that it is *H. crocatum*. It is not only a very imperfect specimen—but, to make matters worse—very badly preserved. Shall I return it? I will keep it for a time in case it is wanted. You know how difficult these things are without good specimens—and even with them not easy. I was greatly pleased with the new Irish *Isoëtes*, but am not quite sure that the name given to it is not correct—*setacea*. Dr. Moore has kindly sent me a good set of it, and I must examine the specimens with care. I have specimens in my herbarium named *lacustris* which have leaves like those of the new one, but much shorter. Can they be the same? I am glad to learn that Newbould is again going to stay with you. We want him to come to us for a holiday, but suppose that we must find him *special work* in order to get him to do so. I wish that my wife and Mrs. Townsend could meet; for I think that they have much in common. She is much better than at this time last year: although still unable to walk about out of the house. It is now four-and-a-half years since her accident took place, but we think that we have reason to hope for complete recovery . . . . . .

To ALFRED FRYER, Esq.

5, BROOKSIDE, CAMBRIDGE, *July* 9, 1879.

My dear Sir,—I am very glad to learn that my determination of the *Oenanthe* is correct. I did not think that there was anything else which it could be. Your discovery is very interesting, as I have never again seen it since I found a specimen in 1833. I shall be very glad indeed to receive a good specimen (as you promise me) at the due time. The *Carices* sent are *muricata* and *divulsa*. Can I have made a mistake, and entered *paludosa* in mistake for *riparia*? I have no specimen, and will try and give a note at the end of this letter of the probable place where I gathered it. It may be that you have not got it: the localities in my original notes for the "Cambridge Flora" rather favour that view. I cannot send you a bit of it, and we have hitherto failed to keep such plants in the Botanic Garden for any length of time. I hope that we shall make another attempt when matters are arranged there. Always glad to help you. The "Cambridge Flora" does not sell, and so I see little probability of a new edition. I wish I did.—Yours very truly, CHARLES C. BABINGTON.

I cannot find the plant.

To the Rev. W. H. PURCHAS.

5, BROOKSIDE, CAMBRIDGE, *July* 31, 1879.

My dear Sir,—I am sorry that I have allowed your letter to remain so long unanswered. I thank God that we have escaped suffering from the very remarkable season that there has been. It has been very unfavourable to all out-of-door work, as the land would hardly admit of walking off the roads and paths—if even there. I am much obliged for the notes of the *Violas* included by me under *sylvatica*. I knew nothing of your son having obtained a Scholarship at St. Catharine's, but am glad of it. When he comes we shall be pleased to pay him any attention that we can. Would he like to mix with our more "serious" men, such as take an interest in the C. M. S., and such like work? We know many such. I do not think that there is much danger here if a man is introduced to the proper set. You would do well to put *the ends of the stems* of the *Rubus Purchasii* into the ground in the autumn, so that they may root. If left alone there—still remaining attached to the parent plant—they will form nice plants next year. Seeds would also grow; but they require four years to come to perfection, although they vegetate at once. If you succeed in raising young plants, I should much like to have one. Believe me to be, with our united kind regards to Mrs. Purchas and yourself, yours very truly, CHARLES C. BABINGTON.

Has anybody taken up the "Herefordshire Flora"?

To HENRY GROVES, Esq.

ROWSLEY, *Aug.* 21, 1879.

My dear Sir,—You will see that I am in Derbyshire, and so unfortunately cannot meet you at Waterbech. I do not know of anyone who knows the place of the plant, to send with you. I fear that there is very little chance for you in such a season. The water ought to be low for hunting for *Chara* in the ditches: and now they are probably quite, or more than quite full. We gathered the *Chara* by lying down on the side, and hunting under water for the plant. I have not been there for some years, and so do not know what is the state of the place in ordinary seasons. But if you do go, you must ask at Waterbech Station for the footway to Bottisham Lode (and take care to ask if it is now passable, which I rather doubt from the water). Cross the river there, and go down the river-bank to the place where a bridge will take you over the "Lode" (a large affluent of the river), turn up its left-hand side as far as a farm, then cross it by a plank to the "Turf Fen," and then hunt every ditch you find, especially some at right angles to the "Lode," soon after you have crossed. If you can get on to the land, which is doubtful, you may find many plants of interest. I shall be glad to hear what you do find. Please write to Cambridge. Mr. W. Hillhouse, F.L.S., of Trinity College, might perhaps go with you; but he does not know the district.—Yours very truly, CHARLES C. BABINGTON.

To ALFRED FRYER, Esq.

CAMBRIDGE, *Feb.* 16, 1880.

My dear Sir,—I am sorry that your letter and plants of December 19 have remained so long unnoticed, but it has been unavoidable. I am sorry that I cannot name the bramble from Holme Fen with any certainty, on account of the growing (barren) stem being wanting, and the otherwise imperfect state of the specimen. In fact, giving any name is purely guess work, and perhaps better not attempted; I am very sorry, for the interest is, as you say, considerable. I think that the *Barbarea* is not *stricta*, and I am not ready to name it. I am obliged for the *Polygala depressa* and *Cardamine amara*. The former I did not distinguish when the "Flora" was written; the latter has been found in a few places since its publication. I think that the *Juncus* from Sutton is *compressus*. The *Trefoil* from the Horseway, Chatteris, is *filiforme*. I shall be glad to learn more about your *Lobelia*, and the *Oenanthe silaïfolia*. Many thanks for the list of new discoveries in your district. I am sorry that my answer is so unsatisfactory, after so long a delay.—Yours truly, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

CAMBRIDGE, *Feb.* 17, 1880.

Dear Sir,—I am very glad that you have found nucules on the *Nitella tenuissima*. It may interest you to know that the plant was named by Prof. Agardh the elder, when he was in Cambridge in 1833. Before then the name had been mistaken. It was first noticed as a British plant by Professor Henslow in 1829, when he gathered it in Bottisham Fen. I shall be glad to learn that you have determined *Chara connivens* as a British plant. I have been expecting to hear of it, but have not seen the plant labelled *fragilis* from Slapton.—Yours very truly, CHARLES C. BABINGTON.

To JOHN E. GRIFFITH, Esq., *Vronhenlog, Upper Bangor, North Wales.*

CAMBRIDGE, *Feb.* 21, 1880.

My dear Sir,—I am indeed very much obliged to you for the magnificent specimen of the *Cineraria*, which I presume is from Porth-y-felin, Holyhead. I shall now study the plant carefully. I have sent on the proofs, and have thought it best not to attempt any alteration or addition to them, although I might have added many spots from the mountains for the alpine species. It is better they should remain as they are, until something more elaborate is attempted, and I would then, if given time, go through my collections, and add all that I can.—Yours very truly, CHARLES C. BABINGTON.

When the proper time arrives, I shall be very glad of a more complete specimen of the *Hieracium* from the Orme's Head. I found it very difficult to decide upon any name for the small specimen sent. Many thanks for the further information.

To ALFRED FRYER, Esq.

CAMBRIDGE, *March*, 1880.

My dear Sir,—I see no reason to doubt your plant being *Rubus Lindleianus*. The *Crepis* is I think *nicaeensis*, of which I have introduced specimens from Devonshire. Where did you find it? Could it have been introduced with seeds? Better specimens this year would be desirable. Of course about the *Oenanthe* there is no doubt.—Yours truly, CHARLES C. BABINGTON.

To Messrs. H. and J. GROVES.

CAMBRIDGE, *April* 6, 1880.

My dear friends,—I am glad to see that you have commenced the publication of the "Characeae." May I give a hint? it is, to quote journals, etc., by the *volume* and *page* not the *year*. It is very far more convenient to those wanting to refer to them. *Chara connivens*

puzzles me: especially the plate in "Bull. Bot. Fr." XVIII. The nucules are figured, and also described as so curious. I see that you remark on this, although you do not quote the plate. Is that intentional? Mr. A. Bennett,* of 107, High Street, Croydon, has sent me a plant from the Lizard, collected by Curnow, which may be the *connivens* of your paper. Have you seen it? If you have not seen his specimens, you ought to see them.—Yours very truly, CHARLES C. BABINGTON.

I hope that you will have a few separate copies of the paper to make up into a separate tract.

To HENRY GROVES, Esq.

April 7, 1880.

Dear Sir,—(1) I have found a paper that it might be well for you to see. Leonhardi in "Verhandlungen des Naturforschenden Vereines in Brünn." Vol. II. Prag. 1864. (2) *Lychnothamnus* first in a book of Ruprecht, "Symbolae ad historiam pl. Rossicarum." On the second page *marked* 11 (although called 79 in the index) published in 1845. He has much about *Chara* there.—CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *April* 19, 1880.

My dear Sir,—You have probably heard from Mr. Bennett that my ideas concerning the troublesome *Chara* are confirmed by Nordstedt. He considers the plant to be "*C. baltica forma leptophylla ad var. Liljebladi accedens.*" I thought it the variety *Liljebladi*. Of course the "marine" character of the Baltic plant is of no consequence; that sea is so fresh, especially in its upper part, that many plants which grow in fresh water with us, inhabit its water. I am sorry that a knowledge of this plant has come to you so late. My acquaintance with it was made as recently as last month. Look at Braun and Rabenhorst No. 114. Is not that very like the cultivated plant?—Yours very truly, CHARLES C. BABINGTON.

To the same.

April 26, 1880.

Dear Sir,—Many thanks for specimens of *Rubi*. I have Leonhardi's paper bound up with other tracts. It is from "Verhandlungen des Naturforschenden Vereines in Brünn." Band II. Prag. 1864. You will probably find this serial in the Botanical Museum. The want of books *at hand* is a serious difficulty. Your remarks concerning the nucules are interesting. You may have to make an appendix to your paper. I hope that you are getting a few separate copies taken.—CHARLES C. BABINGTON.

* He has sent what seems to be the *C. hispida β Liljebladi of Braun* from Kynance Cove by Curnow.

To Professor J. H. Balfour, M.D.

Cambridge, *June* 7, 1880.

Dear Balfour,—It is indeed a very long time since we met. I hope now from your letter that you are thinking of being here at the Medical Meeting in August, and that we may then meet again. As there is every probability of our being able to be here at that time, we hope that you will take up your quarters at our house. We do not now see anything to take us away before that time; but there is a meeting in Wales immediately after, which I trust will not clash with it. It is one to which I am almost *obliged* to go. My wife desires to send her very kind regards. She is now, I am thankful to say, very much better.—Yours truly, Charles C. Babington.

To T. R. Archer Briggs, Esq.

Cambridge, *Aug.* 9, 1880.

My dear Sir,—I am sorry that you have thought it necessary to send the second copy of the "Flora," but I shall put it into our Botanical Library connected with the Herbarium. You are doing admirably with the *Rubi*. I did not know that *hirtifolius* (Wirtg.) was the same as *pyramidalis* (Kalt.), but I now see that Focke says that they are very nearly related. I wonder what Genevier called it—for as you have it, it probably grows in his district. It is a happy thing that he lived just long enough to finish the new edition of his "Monographie." He died almost immediately after it was finished. I am in treaty to obtain his collection of *Rubi* for our Cambridge Herbarium, and hope to obtain it if they put any reasonable value upon it. I shall be very glad to learn what your other new discovery turns out to be. These two books by Focke and Genevier will entail much work upon me, and if I get the Genevier Herb. Rub. I shall have very fine materials with which to study.—Believe me to be, very truly yours, Charles C. Babington.

To J. E. Griffith, Esq.

Oct. 7, 1880.

My dear Sir,—It looks very much as if the *Potamogeton lanceolatus* never did produce fruit. I have failed to find any *true* fruit on the specimens sent to me when softened, for of course I found them quite dry. If it only increases by offsets it will account for its very local character; and probably also shew that it is only a form of some other plant; of what I know not. The report of it from our Cambridgeshire fens I am very doubtful about. I have seen no specimens.—Yours truly, Charles C. Babington.

It is growing in our Garden from specimens sent from Llandudno. I have failed in seeing if there are "two stronger dorsal ribs" on the stipules. Did you look to this? It is stated doubtfully in the "Manual."

To ARTHUR BENNETT, Esq.

CAMBRIDGE, *Oct.* 15, 1880.

My dear Sir,—Many, very many thanks for the specimens of *Potamogeton lanceolatus* (Sm.) from Burwell Fen. I was certainly very sceptical about the plant growing there after seeing it in the rather swift stream at Llugwy Bridge. But I am now convinced that your plant and that found in Anglesea are the same. Now that attention is again drawn to the plant, we may hope that it will be found in other places. It is quite unknown on the continent as far as I can find out. The Welsh plant has very rarely true floating leaves: we found none this year. It is curious that the plant flowers are so very late. Mr. Griffith could not find any fruit as late as the end of September, nor do you seem to have found any. The other points in your letter I will attend to another day. —Yours very truly, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

CAMBRIDGE, *Oct.* 15, 1880.

Dear Purchas,—Your son has delivered the parcel to me, and also the fresh specimen of *Rubus*. The former I have not yet examined, but will do so as soon as I can. I happen to have much to do just now, and so there may be some little delay. Concerning the fresh specimen I am not very sure. It seems to be almost exactly the same as a specimen issued by Bloxam in 1846 (Fasc. of Rubi) from Twycross as "*dumetorum* (*nemorosus* Hayne)"; and also one from him in 1869, also from Twycross, as probably my *tuberculatus*. I incline to think that he is correct in this latter name, and that your fresh specimen ought also to bear it. Mind that *tuberculatus* is probably a collection species, including somewhat diverse forms. The group of *caesii* is still very imperfectly understood; Focke has made nothing of them, and Genevier has a very detailed account, which I have not yet studied. Indeed I am leaving Genevier's book aside at present, as I am in very great hopes of obtaining his whole herbarium for our Herbarium here. You know he is dead, just after completing the new edition of his very valuable "Monograph." But I think, and have long done so, that our *tuberculatus* is his and Müller's *scabrosus*, and perhaps the *teretiusculus* of Kaltenburg. Either of these names is older than mine. But Genevier's herbarium (if it come here) will probably settle this and many other questionable points. *R. Purchasii* will perhaps also be settled when the same happy arrival takes place. You will have seen that I was very shy of it when drawing up my last published notes on the *Rubi*. I am quite as shy of it now. Your note is worthy of much consideration. It certainly did not occur to me to place it with the *spectabiles*; but you may be correct,

and I shall have to see about that view. I have given the root to our new and most valuable Curator (Mr. Lynch) and hope therefore to see something of it next summer, if all goes well with it and me. It is very curious that you find it in only one place, and even there in such small quantity. I will write again with the *Rubi* when I have examined them, but such examinations often take some considerable time, and I have a set of Briggs' which have precedence. I am sorry that we have seen less of your son than we wished.—Yours very truly, CHARLES C. BABINGTON.

To ARTHUR BENNETT, Esq.

CAMBRIDGE, *Oct.* 16, 1880.

My dear Sir,—I must send you a few more words about the *Potamogeton*. As I said in my last letter, I am quite satisfied about its being *P. lanceolatus* (Sm.). I have for some time given up the idea of its possible identity with *varifolius*. I have a specimen "Uza Dept. des Landes" *Endress* 1831, which is certainly not our plant, and Grenier placed it under *gramineus* (our *heterophyllus*). *P. lanceolatus* of Reichenbach "Fl. Germ. Exsicc." No. 2401, is *P. salicifolius* (Wolfg.) = *lonchites* I suppose of Tuckerman. The only approach to our plant that I have is the *P. panormitanus* (Biv.) No. 188 in Huet du Pavillon's "Fl. Siculae." But Parlatore says that the true *P. panormitanus* is *puro sinonismo dei P. pusillus*. ("Fl. Italiana" u. 638.) My specimen is from one of the sections which he quotes. *Panormitanus* has much broader lower stipules. See Gussone's description of it in "Fl. Siculae Synopsis," i. 207. The upper stipules also are much broader than in our plant. I do not think that I can make out any more about it. It seems therefore to be unknown on the continent. I am very much in want of specimens of most of the North American species. Any scraps therefore which you may be able to spare will be acceptable. I have a large collection, and shall be pleased to shew it to you at any time.—Yours truly, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

5, BROOKSIDE, CAMBRIDGE, *Jan.* 28, 1881.

My dear Sir,—I have your circular of the 20th, and am sorry for the difficulties attending the efficient working of the Exchange Club. Certainly it would be far best to have *the work in one hand*, if one hand can be found to do it. It entails much labour, and the members ought to be very grateful to any one who is willing to give up so much of his time, and so much labour for their benefit. The summer is a most inconvenient time for such work; for then many men are not continuously at home. I often have parcels of plants sent to me by my correspondents in the middle of the summer; and as I usually am away from home most part of August and all of September, they have to lie unopened until my return in October;

and then I find my time very fully occupied. It takes me much time critically to examine a parcel, usually consisting of plants sent because they are not easily determinable. I hope therefore that some plan may be adopted so as to hasten the work in the spring. —Yours very truly, CHARLES C. BABINGTON.

P.S.—I thank you and your brother for the appendix to the *Characeae*. I am inclined to agree with those who do not wish a *recognised* name to be altered, because an older neglected one can be found. In ordinary cases the rule of priority is most valuable—but a name may become obsolete. I am thus sorry that you have dropped the accepted name, *stelligera*.—C. C. B.

To HENRY GROVES, Esq.

CAMBRIDGE, *Mar.* 22, 1881.

My dear Sir,—The parcel belonging to the Exchange Club has arrived, and I will attend to it as soon as I possibly can, I hope this week or next.—Yours truly, CHARLES C. BABINGTON.

To the same.

Mar. 28, 1881.

Note.—Members should be reminded that very much care and minuteness is requisite in collecting *Rubi*.

Notice and Record.—The direction of the barren stem, the characters from the flowers—especially the *relative lengths* and *colours of the stamens and styles*. All foreign authors, such as Focke and Genevier, lay very much weight upon these points, and I think with reason. But they can hardly be determined from the dried plant; certainly not from imperfect or imperfectly preserved specimens, such as are often sent to me to name. I am now suffering from my ignorance of the value of these characters formerly. It is very seldom indeed that I find any of these points noted on the tickets sent with the plants. From the want of such notes, and the badness of the specimens in some other point of consequence, I very often cannot venture to append a name to the specimen *with certainty*.—CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 16, 1881.

Dear Sir,—Many thanks for the information asked for. What do you now think of Curnow and Bennett's possible *baltica* from Lizard? I see Nordstedt's name is *baltica-leptophylla ad Liljebladi accedens*. How about *connivens*? I have not seen it. Do you not notice the curiously inflated upper joints of bracts in *tomentosa*? Our plant differs much in look from *ceratophylla* (Wallr.), "Ann. Bot.," t. v.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 28, 1881.

My dear Sir,—I am greatly obliged to you for the beautiful specimens of *Chara baltica*. They are just the same as I have received before from Mr. Bennett, and named *baltica*. It is very satisfactory to have one's opinion confirmed in this way. I presume that you want my notes on the other plants sent: is it not so? If so, I will send them to you as soon as ever I can.—Yours very truly, CHARLES C. BABINGTON.

To J. E. BAGNALL, Esq.

CAMBRIDGE, *July* 7, 1881.

Dear Sir,—I thank you greatly. I have examined the bramble, and find the filaments and young anthers white, the old anthers fuscous. The stamens at first about equalling the pale green styles, ultimately exceeding them. All this leads me to suspect that our plant may not really be *hemistemon*, but *appendiculatus* of Genevier's Monograph. I am not at this time able to examine his specimens of the latter. Does this accord with your observations? I was unable to examine the specimens until this morning, so they may have changed colour in the tin. You are working well at the Warwickshire plants. I wish that some one, having the requisite leisure, would take up the flora of that county.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To J. T. T. BOSWELL-SYME, Esq.

CAMBRIDGE, *July* 18, 1881.

Dear Boswell,—Do you know how I can obtain a rooted offset of the original *Caltha radicans* of Forster? We had it here until our Garden was moved, and then we lost it. The same happened at Oxford through alterations in the Garden. I have tried several other places without success. I especially want the continuation of the original plant of Don and Dickson, which was published by Forster: not a supposed similar plant. All the old roots in gardens came from that original plant, and the recovery of that actual plant is important. You may perhaps know something of its existence somewhere now, and will be doing me a great favour by putting me in the way of regaining it for our Garden. I gathered the remarkable *Cineraria* found by Davies, at Holyhead last autumn, and we have it now in cultivation. When flowering in a wild state it is often three feet high, remarkably leafy, with magnificent foliage. I have no doubt that it is the *Senecio spathulifolius* (D.C.) which we have also in cultivation here. I am glad to say that it grows in a very difficult place to find, and when found, to get at, and so we

may hope that it will escape the extirpating hands of cultivators. I also saw last summer the *Cotoneaster* still remaining in the clefts of the rock at the Orme's Head. But it is in great danger, as every bit that can be found is immediately extracted, if possible, from between the rocks. We have it very hot here. I hope you bear it well.—Yours very truly, CHARLES C. BABINGTON.

To J. T. T. BOSWELL-SYME, Esq.

CAMBRIDGE, *July* 27, 1881.

Dear Boswell,—Your very welcome tin has just arrived, and I have placed the contents in Lynch's hands at our Garden. This very morning I took there a root of the original *Caltha radicans*, sent by Mr. Moore, of the Glasnevin Gardens, where it has certainly been ten years (how many more no one knows) in cultivation. There is every reason to suppose, therefore, that his plant, like yours, is from the original root of Forster. Dickson was the original discoverer, but he gives no locality. I have no reason to doubt G. Don's correctness in this case—he lived close to the place. I think also that Mr. Graham, of Rescobie, has found the true place in the same immediate neighbourhood, although the original ditch is now cleaned out and altered. The roots of *Salix Grahami* in its two forms are very acceptable and valuable additions to our collection in the Garden, as also is *Hieracium Dewari*. Many thanks for the information about the supposed *Potamogeton lanceolatus* from Orkney. A proved negative is very valuable. I think that we are quite allowed to correct the orthography of a name when it is clearly wrong; nor are we bound by the *gender* of the name as used by Linnaeus. Certainly *Knautia arvensis* (Linn.) would be quite wrong, as he never used that name, but *Scabiosa arvensis*. I only got leaves of *Senecio spathulifolius* myself, for it was long out of flower. My fine flowering specimens are from Mr. Griffith of Bangor. I wish I had a bit to give to you.—Yours very truly, CHARLES C. BABINGTON.

I will send you a seedling from our Garden, to which I took seeds.

To HENRY GROVES, Esq.

CAMBRIDGE, *Nov.* 2, 1881.

My dear Sir,—I send *Chara contraria* from Frensham,—all that I have unfastened down; they are duplicates therefore. Can you send me a bit of the same plant from Wicken, and also *Nitella tenuissima* from there? I am glad to learn that we are to have a new paper from you soon. I hope that I have not made any gross mistakes in the "Manual." I took much care, but was driven into a corner at last, so that *contraria* only got in the "revise," and the station not till even after that. I did as well as I could, and hope that I have succeeded. I am glad that you had a specimen to send to Dr. Boswell.—Yours truly, CHARLES C. BABINGTON.

To ALFRED FRYER, Esq.

CAMBRIDGE, *Oct.* 21, 1882.

My dear Sir,—Many thanks for the specimen of *Bupleurum tenuissimum* from Sutton. I have no record of its growing inland since the time of T. Martyn, or other than those recorded in the "Camb. Flora," p. 96. Have you a specimen to give me of the supposed *Agrostis setacea*? I think you sent one, but I cannot find it. I believe that it is the true plant, and a very singular extension of range, and very peculiar place for it. I presume that the *Aster* and this *Bupleurum* are remnants of an old tidal flora, before the erection of Denver sluices.–Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Nov.* 1, 1882.

My dear Sir,—I have been looking at your *Arctia* from Sutton. There seem to be two, but with only one label: *A. intermedium* = *A. pubens* (Bab.). *A. majus subtomentosum* = *A. tomentosum* (Bab.). The grass from Mepal is *Serrafalcus commutatus*. The other must I think be *Agrostis setacea*, but it is a very remarkable locality for it.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Feb.* 14, 1883.

My dear Sir,—I am glad to learn that you have found *Scirpus uniglumis* in this county, and hope that you will again be able to gather it this year. I hardly like to take your specimen, but hope to have some bits for our Herbarium when you again find it.—Yours very truly, CHARLES C. BABINGTON.

To FREDERICK TOWNSEND, Esq.

CAMBRIDGE, *March* 31, 1883.

Dear Townsend,—I am very much obliged to you for a copy of your "Hants Flora" recently received. I congratulate you upon its publication; it is admirable. I have gone through it with care, and see many points of great interest, and which will require my attention. I do not well understand about the *Orchis incarnata*. Do you think that there are three plants in this country, and that the true *incarnata* is different from what we have called so in the past? I confess that I do not see any real points of distinction between C. B. Clarke's and our plant. It seems to be a very variable plant in colour, and there really to me seems to be next to no other difference between them. I presume that you have only Clarke's plant in Hampshire, and suppose that we have only the other here.

It was very necessary to include the Isle: your book would have been imperfect without it, and Bromfield's "Flora" is not of much use now, and was very badly edited. If he had completed it himself it would have been a very valuable section of a general flora (such as Leighton's is) but now it is an imperfect piece only. I am right glad to learn that you are restored to health again. I fear that nothing ever brings you into this part of the country, so that we have very little chance of seeing you here. It would give Mrs. Babington and myself very much pleasure to do so.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To ARTHUR BENNETT, Esq.

CAMBRIDGE, *July* 23, 1883.

My dear Sir,—Very many thanks. I congratulate you on your discovery of *Naias marina* in Norfolk. There can be no doubt about the plant.—Yours ever, CHARLES C. BABINGTON.

To FREDERICK TOWNSEND, Esq.

CADGWITH, RUAN MINOR, CORNWALL, R.S.O., *Sept.* 3, 1883.

Dear Townsend,—Your letter has come to me here, where we arrived on Saturday in a storm of rain and wind. We hope to remain here to the end of the month, and then return home. Your letter has interested me very much, and I do indeed thank you for it. In the list of errata I have not attempted to insert all, but all important ones that have come to my knowledge. Owing to the unavoidable circumstances, I was very much hurried in the printing of this edition, and, so, seldom saw revises; hence the errata. I have intentionally written Townsend*ii* with two *i*'s. It is more correct to end in *ius* than in *us*. I am glad to find that the plant is so marked, but hardly expect the *species* to be accepted. I wonder where that and *Spartina alterniflora* came from? There seems to be a concurrence of opinion that Europe is not its true native country, but rather America, brought by ships with ballast. You have done well to sow and study the plants of *Erythraea capitata*: not that there can be the slightest doubt of its distinctness. I did so with the *Senecio spathulifolius*, and *S. campestris*, and have been very much interested by seeing them side by side and *so very different*. The same is the case with the *Herniarias*. But these are points which never come to the notice of herbarium botanists, and so are totally ignored, and the plants at once combined. As I said in the preface of the "Manual," our business is to distinguish living plants, and define them—not to help possessors of herbaria especially and exclusively. I trust that you are both returned much better in health; I am glad to say that we are well—thank God for it. With our united kind regards, I am yours ever, CHARLES C. BABINGTON.

To ALFRED FRYER, Esq.

RUAN MINOR, CORNWALL, R.S.O., *Sept.* 15, 1883.

My dear Sir,—I am indeed very much pleased to learn that you have re-found *Sturmia Loeselii*, and in such abundance as to render its extirpation improbable. I did not know that there was any fen of the right sort near Chippenham. It is a district but little examined, that is, on the fen side. I hope to be home on or about the first of October, and am very truly yours, CHARLES C. BABINGTON.

To JAMES BACKHOUSE, Esq.

RUAN MINOR, CORNWALL, *Sept.* 24, 1883.

My dear friends,—I am much grieved to learn from the card so kindly sent to me, that the sad loss, for some time expected, has happened to you and Mrs. Backhouse. May our ever merciful Lord give you strength to bear it, knowing that He does all for the best. He saw that your dear son had done his work upon this earth, and so has taken him to Himself. It is a sad affliction to us to lose a dearly beloved relative, but what a gain to him to be removed from this earth to the Heavenly kingdom. May He bless and preserve to work together here, you and your dear wife and family, is the very sincere wish of your friends, my dear wife and myself.—Your ever affectionate friend, CHARLES C. BABINGTON.

To ARTHUR BENNETT, Esq.

RUAN MINOR, CORNWALL, *Sept.* 27, 1883.

My dear Sir,—I am much obliged to you for the information about *Naias*, and the interesting discovery of *Chara Braunii* in Lancashire. I hope that you or the Messrs. Groves will soon give us an account of it in the "Journal of Botany." I shall be very glad indeed to receive and examine the specimens you kindly propose sending. I return home next week.—Yours very truly, CHARLES C. BABINGTON.

To A. G. MORE, Esq.

5, BROOKSIDE, CAMBRIDGE, *Oct.* 30, 1883.

Dear More,—It is rather long since I wrote to you, as I have been delaying until I could send the book which goes by this same post. It is our very much lamented friend Corry's copy of the "Cybele Hibernica," in which he had commenced entering all extracts from my herbarium which he considered likely to be of

value for the new edition of that book. I have taken the job up where he left it, and gone carefully through the remainder of my herbarium, and made entries accordingly. I wish he could have finished his work himself, for he knew far better what would be of use and what not. But I have done my best. I hope that the book will reach you safely by book-post: it is addressed as this letter. (What is the right address? tell me that I may enter it in my book). We went to Cornwall, after a few days at St. Davids, where I received your letter, and had a nice month at the Lizard (Cadgwith Cove). The *Erica vagans* was not fine this year, owing to a storm which had injured it. I saw a fine patch of *Cyperus longus*, and of *Ruscus*, and a few remains of *Asparagus*, which was long past flower. The *Trifoliums* have, I was told, quite failed this season. I do not wonder that you could not find *Cyperus* at St. Davids, for it has not been seen for very many years, even if it really ever was there. I will not write more now than to convey our united kindest regards, as my time is rather short to-day.—Yours ever, CHARLES C. BABINGTON.

To W. MATHEWS, Esq., *Birmingham.*

CAMBRIDGE, *Nov.* 3, 1883.

Dear Mathews,—I hear from Britten that you are reported to have an idea of drawing up a catalogue in the place of the "London Catalogue of Plants." If this is the case, might I suggest that Britten and I should have some voice as advisers in the matter? It is very important that it should be so done as to be acceptable to our botanists and collectors; and they are a ticklish body. No new views on nomenclature should be in it. "London Catalogue," ed. 7, is rather injured by such coming in. I know that you will excuse me, but you know I must be much interested in having a new catalogue generally acceptable as well as correct.—Yours truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Dec.* 8, 1883.

My dear Sir,—I am very much pleased by the discovery of *Lobelia urens* in so good a new locality. Doubtless it will be found in others now that attention has been directed to it again. Many thanks for the beautiful specimen which I am now mounting for the Herbarium. I was sorry to pass through Plymouth without seeing you last summer.—Yours truly, CHARLES C. BABINGTON.

P.S.—*April* 28, 1884. I was taken ill and had left this note at the Herbarium at its date. I only got there on Saturday, very much restored to health I am thankful to say. This will explain my apparent neglect.—C. C. B.

To W. MATHEWS, Esq.

5, BROOKSIDE, CAMBRIDGE, *Jan.* 25, 1884.

Dear Mathews,—Your plant does seem very close to *Juncus tenuis*, judging by the characters as given by Koch (ed. 2) which is the only book that I have at hand. Do you wish the specimen returned now, or have you others, or can you get them? I should like to keep it until I can go to the Herbarium, and place it beside authentic specimens of *J. tenuis*. I think, however, "as at present advised," that it is a good discovery. I am getting better slowly.—Yours ever, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

CAMBRIDGE, *April* 30, 1884.

Dear Sir,—Will you tell me the true name of this *Chara*? I am asked the name, and cannot tell quite certainly.—Yours truly, CHARLES C. BABINGTON.

To FREDERICK TOWNSEND, Esq.

CAMBRIDGE, *July* 18, 1884.

Dear Townsend,—I see you take no notice of the seeds in *Euphrasia officinalis*. Is it that you do not find any constancy in their shape, etc., or that you think such characters of no value in the genus? Many years since I paid much attention to these plants, and observed four forms distinguished by their corollas and capsules, and the teeth of the leaves. I have notes of these in the "Manual" (ed. 1, MS.). My characters depended upon the shape of the fruit, and the toothing of the leaves and the corolla. I append them: (α) lower lip unequally lobed, lobes and helmet entire, with three slightly prominent points upon each, palate yellow, helmet tinged with purple, fr. lanceolate-truncate, l. with five ascending lobes on each side, nearly cordate; (β) lower lip nearly equally lobed, lobes of helmet with two rounded notches separated by a sharp prominent point which is longer than the side lobes, fr. widening quite to the truncate top, l. narrow, three ascending lobes on each side; (γ) lower lip rather unequally lobed, lobes of helmet each with one large notch with a small acute tooth in its centre, fr. widening nearly if not quite to the truncate top, l. obovate, with three ascending lobes on each side; (δ) lower lip unequally lobed, upper as in γ, fr. widening through two-thirds of its length, then narrowing slightly to truncate top, l. roundly cordate, with four acute spreading lobes on each side; α, γ, and δ have filaments downy at base, β glabrous. I doubt if these notes are of any value. I have since neglected them, as probably too variable. I have specimens closely resembling *Salisburgensis*, which would not come into the plan of the

last page. But I will look more into the matter, as soon as I can. Just now I cannot. Some one has borrowed my copy of the "Tourist's Flora," and not returned it. Is it out of print, as I am told, or can I anyhow obtain another copy? Please tell me where to apply for one.—Yours very truly, CHARLES C. BABINGTON.

To ALFRED FRYER, Esq.

CAMBRIDGE, *Aug.* 14, 1884.

My dear Sir,—I think that your plant is *Potamogeton flabellatus*, but the leaves are not very decided, and the semi-ripe fruit somewhat difficult of determination. The early leaves settled the point in my opinion. I have not seen the fruit of *P. decipiens*. I believe it will be found that many species produce hard tubers in the autumn, from which the next year plants grow. This accounts for the rarity of the fruit of many of them. I am leaving home in a few days and hope to return at the end of September quite strong again. I cannot yet walk far, as my ankles are weak.—Yours very truly, CHARLES C. BABINGTON.

To W. MATHEWS, Esq.

CAMBRIDGE, *Oct.*, 1884.

Dear Mathews,—I believe *Herniaria glabra* is nearly (if not always) annual with us, and *ciliata* decidedly perennial. What *annua* may be in warmer country I cannot say, but suspect that it is usually confounded with *ciliata*. I must confess that the characters are not very well defined, but the plants when growing side by side are wonderfully different. I am sorry that I have not a bit of true *glabra* to send. I very much wish that I could find some well-definable characters for the plants. It is probable that Syme has not seen any true *glabra* from Guernsey. I think that I have. Probably only *ciliata* is found at the Lizard. Is not *glabra* a field plant, not liking such places as *ciliata* inhabits? I do not remember anything about its situation in Guernsey, but where I have seen it in England (if it is not Cornish) it grew upon broken ground, such as the weeds of agriculture affect. I hope that Mr. Towndrow has again found the *Juncus tenuis*.—Yours very truly, CHARLES C. BABINGTON.

To JAMES BACKHOUSE, Esq.

CAMBRIDGE, *Oct.* 3, 1884.

Dear friend,—I have very carefully examined your specimens of *Cineraria capitata* with the following result. *Cin. capitata*, (Wahl.) = *Senecio aurantiacus* β of Reichenb. ("Iconographia," fig. 243 and 244).

C. capitata seems to be only a rayless state of *aurantiaca* as it is understood universally (?). It has the "flores rubro-aurantiaci" of *aurantiacus*, but not its radiant florets. *C. capitata* (Hoppe) is a rayless form of *C. pratensis* (Hoppe). It is figured in Reichenb. "Iconographia," fig. 219. I have Reichenbach's specimen of it before me, and it is quite different from your specimen so-named, and from our Welsh plant. Your specimen (except in the colour of the flowers) closely resembles some small Swiss specimens of *aurantiacus*, received from Shuttleworth. Can yours be a pale form of it, for it is certainly not *capitata*? At the time when *spathulifolius* has usually been gathered, either here or on the continent, it has lost its beautiful radical *spathulate* and *arachnoidally*-clothed leaves, which are very beautiful indeed on the young spring plants. I have specimens retaining them (more or less) from C. H. Schultz, F. Schultz (Herb. normale 690), Wirtgen (Pl. criticae 609). These are all named *spathulifolius*, and are just like our Holyhead plant, which I have studied carefully in cultivation from seed obtained from roots brought from Holyhead, and flowered here. I quite think that our plant (Welsh) is rightly named. But what is your Yorkshire one? I have only seen the root that you shewed me at York. Can you send me a root or seeds of it? or a good dry specimen? We have had the German plant in cultivation in the Botanic Garden, but fear that it is now dead. I have the Welsh plant alive, and forming a rosette for a third winter, having flowered in two summers, so it is not biennial, as Syme thought. I hope that this will interest you. I will return the specimen very soon.—Yours very truly, CHARLES C. BABINGTON.

To W. MATHEWS, Esq.

CAMBRIDGE, *Oct.* 31, 1884.

Dear Mathews,—The plant in my garden which came, I fully believe, from Briggs as *Calamintha Briggsii*, does not now seem to differ from typical *officinalis* of our books, *Thymus Calamintha* of Linn. and Smith. I have never had any other *Calamintha* in cultivation, and this one has sown itself largely, and the seedlings of it (as I fully believe) are *C. officinalis* α. Certainly I have been in error, for *Briggsii* is not *ascendens*, and I cannot find out what the French would call it. I think that my *menthifolia* = *ascendens*, but whether it is also *menthaefolia* I am far from sure. My *B. ascendens* = *Briggsii*, and ought to be called so. Jordan's text and figure seem to determine this point. And Boreau says the same. Nyman considers our *officinalis* to be *menthaefolia*, but knows nothing of *Briggsii*. The specimens which you have sent are apparently my typical *officinalis* called *menthifolia* in the "Manual." I have the same from the Great Orme's Head, and had named it *ascendens* (Jord.) and afterwards struck out that name. I now think that I was correct originally. The question now arises, is the plant in my garden

which has sown itself about, the result of *Briggsii*, or what can it be? Does it not shew that *Briggsii* is only a state of the typical plant, not a variety? I am glad to learn that the *Juncus tenuis* has been again found, and have written to the discoverer about it. I am happy to tell you that I am very much better, and able to walk about again reasonably well. I have to be careful, and not to stand about more than I can help.—Yours very truly, CHARLES C. BABINGTON.

To W. MATHEWS, Esq.

CAMBRIDGE, *Nov.* 27, 1884.

Dear Mathews,—It is quite true that many of the continental books place *Calamintha sylvatica* of Bromfield to *C. officinalis*. The matter was much discussed some years since, and we came to the conclusion that they were incorrect. *But if true*, I suppose that we must call our *officinalis = menthaefolia*, and I suppose that Jordan's *ascendens* is the same thing, and *Briggsii* a form of it. Bromfield's plant in E.B.S. is admirable.—Yours ever, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

CAMBRIDGE, *March* 3, 1885.

Dear Mr. Groves,—I was far too well pleased to receive the *Charas* to think at all of the want of a note with them. If you are in Cambridge this year, I trust that we shall see something of you. It will be very pleasant for you to see Nordstedt if he comes to England. You will obtain so much information from him. I know nothing of any herbarium which may have been left by S. F. Gray. I am happy to say that my health is wonderfully restored.—Yours very truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *June* 12, 1885.

My dear Mr. Groves,—Can you give me a specimen of *Chara* prolifera*? I have only one poor bit of it—the plant from Cley mentioned by Borrer in E.B.S. under 2762.—Yours very truly, CHARLES C. BABINGTON.

I am glad to find that Mr. Fryer has found true *Nitellae capitatae* in this country. The nucules and their mucilaginous coats are beautiful.

To ARTHUR BENNETT, Esq.

CAMBRIDGE, *July* 21, 1885.

. . . . Many thanks for the information of *Calamagrostis strigosa* being found in Caithness. It is quite an arctic plant. A great encouragement to expect more. Such plants as this may well be hid in Dick's Herbarium. Who is the finder?—Yours, CHARLES C. BABINGTON.

* *See* "Manual" *Nitella*.

To the same.

CAMBRIDGE, *July* 24, 1885.

. . . . I hope that R. Dick will have the credit due to him. He had no means of detecting that the plant is *C. strigosa*, and not what he supposed it to be, the *C. lapponica* of Hooker. I see J. Hooker still gives Caithness as one station of *Deyeuxia neglecta* (on the authority of specimens found by Dick).—Yours, CHARLES C. BABINGTON.

To ALFRED FRYER, Esq.

HERBARIUM, CAMBRIDGE, *Aug.* 10, 1885.

My dear Sir,—I think it was Mr. Bennett who lately sent me roots of what seems to be the true *Potamogeton flabellatus* from Surrey, and I have no doubt that your plant and that from Surrey are the same. The fruit is very seldom to be found on account of the canals and drains being carefully cleared of weeds in the middle of the summer, but I think that the broad lower leaves (if present) are always sufficient to distinguish it. I do not know upon what characters you and he are inclined to distinguish your plant from mine. I am very sorry that I cannot send you a specimen of *flabellatus*. I have often had difficulty in finding the broader lower leaves, owing to the specimens which usually only consist of the flowering tops. I am usually here between say 10.30 and 12.30, and if you will give me notice when you are likely to come, I will arrange so as to be certainly there at the former hour. Reichenbach says of the leaves of *Zizii*: "When floating leaves occur they are *pellucid*."—Yours very truly, CHARLES C. BABINGTON.

I expect to be at Cambridge this week and next, but probably not afterwards until October.

To the same.

CAMBRIDGE, *Dec.* 2, 1885.

Dear Sir,—I do consider your plant to be *Potamogeton flabellatus*. A section of the fruit is different from that of *P. pectinatus*. I believe that if we could find the plant in such a place as these are from, we should usually find the fruit. It is usually destroyed by the clearers of the weeds from the waters before they are perfected. I should have expected the rapid stream in Surrey to draw the plant out from the fan-shaped form, and so render its look very different. My impression is that the broad leaves do, as a rule, decay in the summer when the plant is flowering. No doubt they may occasionally be found even then by careful search. I am much obliged by your remark about the fruit of *P. lucens*.—Yours truly, CHARLES C. BABINGTON.

To F. Buchanan White, Esq., M.D., *Annat Lodge, Perth, N.B.*

5, Brookside, Cambridge, *Dec.* 7, 1885.

Dear Dr. White,—I hope that you have not thought I was never going to send the localities in Perthshire. It has taken more time than might have been expected. I have extracted the *locality* of every Perthshire specimen in my herbarium. Most of them are probably already well-known to you, but some may be earlier than the authorities you possess. I also return Webb's list, and am surprised to find that I found so many of the *low country* plants seen by him. I think that my list is pretty well for the season, and limited space round Killin. I hope that what I have done will be of use to you, and am, very truly yours, Charles C. Babington.

To T. R. Archer Briggs, Esq.

Cambridge, *Dec.* 17, 1885.

My dear Sir,—I hope that you will work out the character of the three *Rubi—ramosus* one and two, and *imbricatus*, and publish them. You know them well, and can satisfactorily do so. I do continue to consider *incurvatus* as distinct. It is very abundant in the Llanberis Valley, and doubtless Mr. Griffith has sent the true plant. What Boswell may know by the name I have no means of knowing. I have not yet identified my *incurvatus* with any in Genevier, but probably shall do so. I have placed it by the *umbricatus* (Müll.). I have been much occupied of late with *Rubi*, having had several large bundles to examine for different people, and am expecting a large one immediately from Perthshire. Dr. White is getting on with his flora of that county. Newbould tells me that Baker finds he can well identify our plants with those of Genevier; not so with Focke. I do not wonder. It seems the probable result. But what of the Perthshire plants? They ought to be more like those of the north of Europe.—Believe me to be, very truly yours, Charles C. Babington.

Is Egg Buckland, Devon, the proper address now? leaving out the wonderful long word given before.

To J. E. Griffith, Esq.

Cambridge, *Dec.* 18, 1885.

Dear Sir,—Many thanks for your valuable letter. I hope that next year you will be able to obtain it (*Potamogeton lanceolatus*) in a far advanced state. In some respects it is very like my *longifolius* from Lough Corrib, of which the fruit has never been found, and which grows in some deep part of that extensive lake. It was found floating, and only two specimens were obtained, of which mine (figured in E. B. S., 2847) is one. Can they be the same? I suspect it.—Yours very truly, Charles C. Babington.

To HENRY GROVES, Esq.

CAMBRIDGE, *Dec.* 30, 1885.

Dear Mr. Groves,—I am sorry to say that I have no duplicates of *Arctium*. I must refer Dr. Nordstedt to "Annals of Natural History," Ser. 3, XV. 9, and Ser. 2, XVII. 869. They are also I think in the "Edinburgh Botanical Transactions." He will probably have access to the one or the other. I am glad that he is working at these difficult plants. With the best wishes of the season.—I am ever yours, CHARLES C. BABINGTON.

To W. H. BEEBY, Esq.

CAMBRIDGE, *Dec.* 30, 1885.

Dear Mr. Beeby,—Do you know *where* the new *Equisetum* is described? I cannot discover any work by Kühlewein. I have been asked to do the *Rubi* for the new "London Catalogue." I fear that we are hardly ready to determine them well, but must do the best that we can. Unfortunately, I have not got the part of Ruprecht's publications quoted by Nyman; but I find the specimen (Fr. H. N. XIII. 99) gathered by Dr. Kühlewein "ad sinum Fennicum," also Billot 2781 from near Arles; and in the "Herb. Fl. Ingricae" (Cent. VI. 816) "In arenosis maritimis inter Peterhof et Oranienb. passim. 1860." These are clearly the same plant, and closely allied to the *fluviatile* (L.) my *limosum* β. I can find no description; Grenier seems not to have known it. But I have written quite enough. I shall be glad indeed to see an English specimen.—Yours ever, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *March* 23, 1886.

Dear Mr. Briggs,—Many thanks for your valuable letter, and the two specimens of your *Rubus scaber*. I really do not know what to call it. It is not exactly the *debilis* of which the authentic specimen has "tige faible, procumbent, cylindrique," but Genevier says, "tige obtusément anguleuse." The leaves also of our plant are more coarsely crenate-dentate than on *most* of my continental specimens, especially than on the typical ones of Boulay. The terminal leaflet also is much more cordate on our plant. But will such points suffice for its separation? I doubt it. May it not be a strong form of the French *debilis*? I incline to retain that name provisionally. I may hit upon something about it in due time. It is not easy to find a new name. I have actually now before me (in Gandoger, "Rubus nouveaux") a list of 1000 named plants of this genus. It is not therefore easy to find a 1001 not already used, especially as this number is only of European plants, and there are

lots more in De Candolle and elsewhere. Your *R. scaber* ("Hedges, Calstock, July 7, 1880") is now before me, and I had placed it, and do, amongst the true specimens of *scaber*. So, as you say, you have three true plants in your neighbourhood. I have also the plant of "Bank, near Tavistock" before me, and consider it to be *Babingtonii*. It is probably also the *adornatus* (Müller),—a more recent name (1858). I find very much to do with the *Rubi*, and I think that the new list will rather astonish you and others. I shall have to write a Commentary—indeed am doing so.—Yours very truly, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

CAMBRIDGE, *April* 22, 1886.

Dear Mr. Groves,—I have this day finished the Exchange Club packet, and return the list bearing my ideas concerning them. Am I to return the specimens? If not, they will all go into our Herbarium. I have nothing special to remark more than is written on the paper. There is much difficulty about the two *Epilobia*. I do not know them well; indeed, I may say that I cannot determine their true names without (what we scarcely ever receive or find in herbaria) the stoles of any, except certain *E. anagallidifolium*. I have never seen the true stoles to Scandinavian specimens, of which I have many. They might all be called *anagallidifolium*, as far as I can see. I cannot see the difference in the seeds mentioned by some authors. I may never have seen the true *alpinum* seeds. Fries says of them on the authority of Anderson, "Semina *E. alpini* lanceolata punctata." Godron says of it, "Graines fortement ponctuées . . . . au lieu de stolons filiformes des rosettes sessiles de f. fasciculées," like those of *tetragonum*, very different from the filiform elongate leafy stoles of the *anagallidifolium*. I am inclined to think that we ought to call our plants *anagallidifolium*, not *alpinum*, until we can obtain certainly true Scandinavian *alpinum* from Scotland. I have hunted for more information, but cannot find any.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. T. A. PRESTON.

CAMBRIDGE, *June* 10, 1886.

Dear Preston,—I do not wonder at your horror at the new "London Catalogue," but the changes would not have been so great if Watson had not issued Edit. 7, which is equally unsatisfactory in many respects. I do not incline to adopt many of the alterations. I suppose that properly they are according to law, but not quite judicious. The Batrachian *Ranunculi* is by Syme, who stipulated for its adoption on the transfer of the copyright. I need not add that I shall *not* follow it. Indeed, there are many points in which

Nyman has been followed where it might have been as well not to have done so. But on the whole I consider it as an improvement on preceding editions. What you say is not worse than the outcry against me when the early editions of the "Manual" appeared. I have always objected to hunting up old obscure tracts and universally neglected names and thrusting them forward. Possibly my *Rubi* is a great horror to you. I have taken all the pains in my power with it, and am about to publish ("Journ. of Bot.") a long paper on them.—Yours very truly, CHARLES C. BABINGTON.

To FREDERICK J. HANBURY, Esq., *Plough Court, 37, Lombard Street, London, E.C.*

CAMBRIDGE, *Oct.* 20, 1886.

Dear Mr. Hanbury,—I am glad to see Backhouse's letter, and to learn from it, and from your own, that you contemplate a book upon *Hieracia*. I think that before publication you will have to come here and see the collections which we have in our Herbarium, Friesian and other of Scandinavia. I shall be very glad to help in any way that I can. But Backhouse, as being a specialist, is far more able to give valuable help. I usually look to him in cases of difficulty. Your book will be a most valuable addition to our literature on this difficult subject. I am very sorry to find that Backhouse has still to speak of his weak health. His help in your undertaking would be invaluable. He has had most of the plants (both ours and Fries') in cultivation, although I fear that he has lost very many of them. We once had a good set growing, but they are not now existing. They are most troublesome plants to cultivate—the weak ones die out, and the seeds of others vegetate in their places. I certainly helped my dear friend in his "Monograph," but he makes far too much of it. Many thanks for the specimen of the supposed *Cerastium arcticum*. I have something very like yours gathered by myself in the Corrie of Ben Nevis (I fancy near the snow) on Aug. 9, 1845, and also in Croall's "Plants of Braemar," No. 510, from Ben Muich Dhui in July, 1856. They were both originally named *latifolium*, but I had changed the name to *alpinum*. I have also a specimen from the Exchange Club (1876) "*C. latifolium* (Sm.) *v. compactum*, Creag-na-dal-beg, Braemar, July 14, 1876, Augustin Ley," of which Boswell says, Report p. 11, "A very characteristic specimen of this variety." It seems to be *arcticum*. Its seeds resemble those of Lange's figure "Fl. Dan." MM.D.CCCC.LXIII. I have also one from Spitzbergen "Wide Bay (4th station) August, 1873, Rev. A. E. Eaton." I will now copy what Lange says in the "F. D.": "humile (1—2″ longum) dense caespitosum, fol. ovali-obovato-subrotundis, inferioribus glabratis, superioribus dense breviter hirsutis; fl. magnis plerumque solitariis; bracteis non scarioso-marginatis; sepalis ovatis,

obtusis; caps. recta calycem paulo excedente; seminibus granulato-papillosis, papillis brevibus obtusis.—*C. latifolium*, Hartm. 'Scand. F.' ed. XI. 236, Blytt, 'Fl.' III. p. 1055. In Islandia, leg. Krabbe. *C. latifolium* (L.): *alpinum* Europae austr. incola praecipue seminum testa laxa leviter reticulata differt."—"Fl. Dan." MM.D.CCCC.L.XIII. (*Obs.*). I certainly do think that your plant is the *C. arcticum*. It is a most interesting discovery. The specimens I have, have often given me much trouble, and similarly Syme apparently. We do indeed want the ripe fruit. Did you think of sending a root to London? I wish we had one here. I am sorry that I cannot be away from home now, so you must try and find a day, after next week, and come to us. We should so much like a good talk about Braemar.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. W. H. PURCHAS.

CAMBRIDGE, *Dec.* 18, 1886.

Dear Purchas,—I am sorry to say that the more carefully I examine the plants with the help of the recently received specimens, the more convinced I am, that my *Newbouldii* and your *Purchasii* are one species. I find exceedingly little difference when carefully drawn descriptions of them are made. In fact, the only point which at once attracts the attention is the clasping fr. calyx of *Purchasii*, usually reflexed of *Newbouldii*, but that I suspect is not constant. The stem of *Newbouldii* has much more abundant setae and aciculi. The lower part of the stem is nearly round, and bears very many short conical nearly patent prickles. How is this with *Purchasii*? On the upper part the prickles are decidedly larger than the other arms. Have your leaves any felt, and are there many aciculi and setae on the petioles? They are abundant in *Newbouldii*. What are the colours of the petals, stamens, and styles? In *Newbouldii* the petals are pale pink, and the stamens exceed the (pink?) styles, and are themselves greenish-white. I think that you will see from the above that there is no good foundation for the separation of the plants. This places me in some difficulty, as I have unfortunately printed the characters of my plant, and Bloxam never did so of his, nor has anyone else as far as I know. I wish I had seen these good specimens sooner, but that I fear is partly my own fault, or rather misfortune, as I really had not time to attend to your parcel. I have to take them in order, but even when it arrived, my description was finished, and may have been out of my hands.—Yours ever, CHARLES C. BABINGTON.

To ARTHUR BENNETT, Esq.

5, BROOKSIDE, CAMBRIDGE, *Jan.* 12, 1887.

Dear Mr. Bennett,—I do not see why *Carex aquatilis Watsoni* should be kept up, and so I see no reason for *nana*. I do not see the good of naming dwarf states of plants, when caused, as I believe this to

be, by situation alone. I do not know where to find Opitz' names. They are not, I think, in the only book of his accessible to me, which is part of an economic "Flora of Bohemia," the same, I presume, that you have seen. Neither can I consult Ruthe "Flora of Mark Brandenburg." I shall be glad to see the account of this *Vaccinium*. I find it in Garcke "Flora von Deutschland," 13 ed., p. 261, given as a hybrid, *myrtillo* + *Vitis-idaea* = *V. intermedium* (Ruthe). I hoped that the Craig Breidden station was sufficiently difficult of access to save the *Potentilla rupestris*, and hope that the Radnor station is a good one. It is interesting to see the old names coming up again in the "Flora of Leicester." I should be very glad to see Swedish specimens of *Carex aquatilis-epigejos* and *cuspidata*, as I know nothing of them,—Yours very truly, CHARLES C. BABINGTON.

To W. H. BEEBY, Esq.

CAMBRIDGE, *Feb.*, 1887.

Dear Mr. Beeby,—I intend to ask to see a *few* of your own retained specimens of Shetland plants, as you so kindly offered. *Armeria Sibirica* is an interesting little plant, it differs from my *A. duriuscula* by its very much smaller size and flat leaves. I do not think the pubescent scape is worth much, indeed the other true *Armeriae* seem to have it. But I have a single specimen of a small glabrous-scaped plant from Trewarvas (Cornw.) which seems to have the leaves flat and very narrow, but singularly broadening towards the end. It is noticed in my paper on these plants in "Annals Nat. Hist.," June, 1849, and (the same) "Edin. Bot. Transactions," III. 217. I then thought it doubtfully allied to *pubescens*. I have only one specimen. (I have found a copy of this now-forgotten paper, and send it, as it may interest you). Have you access to Turczaninow's "Fl. Baicalensis" anywhere? I do not know it. Judging from the description ("D. C. Prod.," XII. 678), I think your plant is the *A. Sibirica*. There are only three which I want specially to see: *Cerastium longirostre*, *Thymus prostrata*, *Matricaria phaeocephala*. I will return them immediately.—Yours truly, CHARLES C. BABINGTON.

The specimens given to me are most interesting.

To the same.

CAMBRIDGE, *March* 1, 1887.

. . . . . Your packet has safely arrived. I shall examine its contents shortly with much interest. I am not very well qualified to name *Hieracia*. You will get a far better report from Almquist; or from J. Backhouse. I shall be glad to learn the result of the examination of the *Armeria Sibirica* question. I have long since given up confidence in the species (even segregate) noticed in my old paper.—Yours, CHARLES C. BABINGTON.

To ALFRED FRYER, Esq.

CAMBRIDGE, *April* 18, 1887.

Dear Sir,—The plant is *Sisymbrium thalianum*, and interesting as in a new district. Coleman gave me MS. lists of localities when he left Cambridge, so that I probably have all or very nearly all the information he had to give. It so happens that I have three copies of the "Cat. Pl. c. Cantab." one of which is of no special interest to me, and it contains the *Appendix* of 1663. I shall have much pleasure in giving it to you if you will tell me how best to convey it to you. It is in very good condition, except that one side of the binding is loose. My other copies are valuable, (1) as containing both the Appendices, and the modern names added by myself. (2) As having belonged in succession to Matt. Prior, Israel Lyons, Mich. Tyson, E. D. Clarke, Henslow, Prof. Newton, with all their autographs.–Yours very truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Aug.* 5, 1887.

Dear Sir,—I have just received your letter of yesterday, and shall also probably receive the specimen to-day. You will have seen that I have described *R. thyrsiger* as a species in my "Notes on *Rubi*," in the "Journal of Botany," July, 1886. Will you see to the colour of the floral organs, and length and direction of the stamens? I have been too much occupied to look through the parcel so kindly sent recently, but will do so if I can before leaving home for six weeks next week. Your returned specimen has come. I certainly do not think that Bloxam was correct in calling your plant *Radula*. I do not consider the armature of the stem as suited for the *Radulae*. It is more in accordance with my idea of the *Koehleriani*. It is not my *rudis*. I must confess myself unable to say what it is; but I rather look to the *Koehleriani* for it, than to any ally of *macrophyllus*. I send this now as I may not have time to do more before leaving home for the far north.—Yours very truly, CHARLES C. BABINGTON.

To JAMES BACKHOUSE, Esq.

BRAEMAR, *Sept.* 9, 1887.

My dear friend,—I did not remember that you had gathered *Saxifraga caespitosa* on Twll-dû, where it was found many years before by J. Griffith, of Bangor, or W. Wilson, of Warrington, from whom I have a very small specimen. It is an exceedingly rare plant, but has been recently found in this part of Scotland, if my memory is correct. I have seen it, and have no doubt of its correct name. I am glad that you have found a new station of

Myosotis rupestris in the Teesdale district. That seems to be a preserve of yours: you have found so many interesting plants there. I am glad that you found *Pyrola secunda* which I have recently seen *here*. What a nice plant it is. Most plants are over. What most strikes me on the lower hillsides is the great prevalence of *Trientalis*. It seems curious to me to find that here they call the fruit of *Vaccinium Vitis-idaea* the Cranberry. What is the case with you? Can the Cranberry fruit imported so largely from Russia be this, and not the true *Vaccinium oxycoccos*? My dear wife and myself wish to send our joint kindest regards to you and your family, to whom we hope that it has pleased God to give good health, as I am thankful to say that He has done to us.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To F. J. HANBURY, Esq.

BRAEMAR, *Sept.* 13, 1887.

Dear Mr. Hanbury,—I am glad to receive your letter, and to learn from it that you have both safely arrived home after your most interesting, but rather rough and laborious, visit to the far north. That it may have done you both good, and strengthened you for the work of the coming winter, is our earnest wish; a wish in which my dear wife joins quite fully with me. We were very sorry to miss you here, and by so very short a time, for we hardly knew if you had departed when we arrived at our nice quarters. We also missed the two Lintons, who had just left to go to Clova on their way home. I have heard from one of them, but he does not tell me if they found much. We have not had good weather since we came, and so have not done much. The most interesting plant which we have seen is *Linnaea*, of which we saw a large patch, of course long past flowering. I am told that there are other spots near, where it grows, but they are not made public for fear of the dealers, who are so given to exterminate valuable plants. I am glad to find *Polypodium alpestre* and *Lastrea aemula* rather abundant. I suspect that last year I mistook the former for *filix femina*, and the latter for *dilatata*. I believe that there are mistakes often made. Amongst the former I found what may be the *P. flexile*, but of that I am uncertain. And now to revert to your letter: I wish you would send the printed list of seeds to Mr. Lynch, Botanic Garden, Cambridge. I think that we should be much pleased to receive as many of them as you can give to us. We formerly received a set from Fries, but they have all vanished, partly because our former curator did not pay sufficient attention to them, but chiefly because our climate is very unfavourable to them. I am now quite sure that as much care will be given to them as can be given. Both Lynch and I shall be much interested in them. I think that most of them had best be kept in pots, but Backhouse found that even so

he could not long retain some in his garden at York. You have got a most interesting set. I am glad to learn that Lindeberg thinks you have found several new forms, and hope that cultivation will prove them to be so. Lindeberg is far too much of an evolutionist for me. I have but little belief in evolution or hybridization, but time will shew. Students, especially young ones, are in far too great haste to accept either theory as fact. Beautiful theories they are, but not proved facts yet, even if they ever are to become such, as I much doubt. But I belong to the old school, and my opinion will probably not go for much with the new one. But enough of this. I congratulate you on the progress you are making with your valuable work. I think that you may find monthly parts rather more frequent than will be quite convenient to you; but when the matter is ready, the sooner it is issued the better for us, and I think also for you. I fear that it will be a heavy loss to you pecuniarily. Is it a sort of commendatory letter that you want from me, or what specially? I have made no discovery here. It was altogether a mistake. I thought that I had seen *Veronica opaca*, but it was not so. The *Hieracia* are nearly, if not quite, over here. The only one of any interest is *H. anglicum*, and that in very small quantity. I have not been to the place you name by the Clunie, but will try and get there if the weather will allow. It is very satisfactory that you have found the *Cerastium arcticum* in plenty, and with mature seeds. It will probably prove to be not unfrequent at the suitable height and position on the higher hills. We are both very much pleased to learn that Mrs. Hanbury was able to walk from the Derry to the top of Ben Muich Dhui and back. It was a very great undertaking. My dear wife and I were in Upper Glen Derry a few days since. How beautiful it is. I know of nothing superior to it, or hardly approaching it. With our united very kind regards and best wishes for you both, I am, most truly yours, CHARLES C. BABINGTON.

To F. J. HANBURY, Esq.

CAMBRIDGE, *Nov.* 4, 1887.

Dear Mr. Hanbury,—I am very much pleased to know that you are projecting, and have made good progress with, an illustrated work on our *Hieracia*. We are very much in want of such a book to help us in the determination of the species of this difficult genus. By the means of Mr. Backhouse's little book, and the possession of numerous authentically named specimens, I have succeeded tolerably well in determining the names of those found by myself or sent to me by correspondents. But we all greatly require such a book as that which you have in an advanced state of preparation. I am glad to learn that Mr. Backhouse, and Dr. Lindeberg, and others are giving you help; for we shall thus obtain from your pen, and the pencil of your highly skilled artist, what will become a standard

work, one of permanent value, which will remove many of the difficulties which now stand in the way of a knowledge of *Hieracia*. I trust that you will receive the cordial support of British botanists especially, but also of all lovers of these beautiful plants.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To the same.

5, BROOKSIDE, CAMBRIDGE, *Nov.* 5, 1887.

Dear Mr. Hanbury,—Will the enclosed letter be of any use to you? I am sorry that it has not been written sooner; but something or other has always prevented me. I did not find the *Hieracium* by the Clunie, which you mentioned to me. I fear that it was too late for it. Indeed I did not go to the place. I saw next to no *Hieracia* at Braemar this year, and was too late for many of the other plants. They seem to have come and gone very early and quickly. I did see a few which I had not seen for many years; such as *Vaccinium uliginosum*, *Cornus suecica*, both in fruit, and also *Azalea*, and others on Morrone. And *Linnaea* in one spot near Invercauld. I am not surprised at your having found forms unknown in Scandinavia: Backhouse did so; and I am similarly situated with the Brambles. It is quite possible that there may be changes caused by climate in similar species, or the *same* species. But I am far from being inclined to allow much of such change. There may however be *aggregate* and *segregate* species. At present we have to look for the latter amongst the *Rubi*, and it may be the same with the *Hieracia*. You must lose money by this work, but we must endeavour to make your loss as little as we can.—Yours very truly, CHARLES C. BABINGTON.

I told Lynch to write about the seeds, and hope that he did so.

To W. H. BEEBY, Esq.

CAMBRIDGE, *Jan.* 20, 1888.

Dear Mr. Beeby,—I have only been able to-day to attend to your very interesting despatch of the 7th. I see that Friderichsen and Gelert (p. 123) quote *divergens* (Neum.) as the same as *ciliatus* (Lindb.) *Balfourianus* (Aresch.). Not "Bab." but Areschoug himself (p. 60) places it as absolutely identical with *Balfourianus* (Blox. and Bab.). I do not possess the "Herb. rub. Scand." quoted by Friderichsen and Gelert. Areschoug says that his plant is that of Baker, Briggs, and Warren, but does not agree very well with my description in "British Rubi," which I can fully believe on looking to that description. I believe that we have more than one form under our *Balfourianus*, but do not as yet see how to distinguish them. If I gathered such a specimen as those you send me, I should call it *Balfourianus*. Doubtless its leaflets do not

overlap, and I only say "usually overlapping." He also says "floribus infimis retro spectantibus," which is hardly the case with our plant. His plant certainly has a racemose (not corymbose) panicle, and its branches racemose. One of Neumann's specimens sent has the corymbose panicle and branches, the other has not. Areschoug specimen enclosed seems to have a mixed form, and the basal stem-leaflets as much overlapping as mine often do. On the whole then I should say a "northern form of *Balfourianus*." Our plant might often be fairly given the name of *divergens*, and its lower panicle branches diverge very much as those of these specimens do. It would have been a much better name, but is now only a *synonym*. I am very thankful for one of the specimens, as you so kindly offer to me. When you next write to Neumann will you ask him if I can purchase a set of the "Herbarium Ruborum Scandinaviae"? It would be a great and valuable addition to my fine collection of these plants, now consisting of more than 500 named forms—authentically named. Many thanks for the Shetland specimen of *Lepigonum marinum*, var. *fasciculare* (?) The shortness of the capsule makes me doubtful of that being its true species; I should have placed it under *L. salinum* (Kindb.). I wish the *Rubus arcticus* had been from Shetland, and also the *castoreus*; not that I think the latter is *castoreus*, of which I have a good Lapland series before me. Your specimen approaches *arcticus*; all mine (mostly from Lestadens himself) are more like *saxatilis*. Your specimen seems to be the *castoreus* of Arrhenius, my specimen the var. *hybridus* of the same author (p. 54). But I see that all these northern botanists consider them both as quite distinct from *saxatilis*; and it certainly would seem so.—Yours truly, CHARLES C. BABINGTON.

To W. H. BEEBY, Esq.

CAMBRIDGE, *Feb.* 1, 1888.

Dear Mr. Beeby,—Have you got authentic *Lepigonum fasciculare* (Sonny)? It does not seem to me that the Shetland specimens agree with the description of it in some respects. I see that Nyman places it under *medium* (which is apparently very near *salinum*), and he is probably correct. I do not agree with Lange in placing it under *marinum*. *L. medium* is perennial according to Kindberg, p. 24, or as the Swedes say, "perennant," but *salinum* is not. I should call your plant *medium* (Fr.), which has a few (very few) "semina alata." I I think the account of *L. medium* is better in Kindberg's "Symbolae" than in his "Monographia." There is a full description in the former, not in the latter. *Callitriche polymorpha*. I think that I could find a book in which *all* our plants are combined under that name. It is not good to use it for a segregate. The difference of this from *platycarpa* seems small, chiefly in smaller fruit and persistent bracts. It may be that we do not know the true *platycarpa*,

and that all our plants so called are only *stagnalis*, as seems conveyed in the note on p. 20; the bracts are persistent on the plant figured in E. B. S., 2864, and therefore that is probably *stagnalis*, as seems probable if *platycarpa* has linear lower leaves. In my own herbarium I find only one set from Witchford, in Cambridgeshire, which can be *polymorpha* (I had named it *platycarpa*). They accord well with the description. If I remember correctly, it was floating in a stream. All its lower leaves linear, but slightly widening at the end, and emarginate. The flowering leaves are rosulate, but the internodes extend, as the fruit advances, so that the upper stem-leaves and the rosulate leaves are similar, at first roundly spathulate, but becoming ovate-spathulate as they get older. The young styles are I think exceedingly long, but their direction is difficult to decide. The fruit is all rather young, but seems smaller than that of *stagnalis*. Apparently the stamens were enormously long. The fruits are very young, but apparently, although decidedly keeled, are not truly winged as those of *stagnalis*. This I found as long since as 1855, and had left without any certain determination, although calling it *platycarpa*. I have omitted the station in the "Cambridge Flora," as doubtless having had a doubt concerning the true name of the plant. I hope that you will see Hanbury (Plough Court, 37, Lombard Street) before publishing about your *Hieracia*. But probably you have done so. I shall be glad to receive it. You have sent me *rigidum* (Backh.) and *boreale*. I shall see your paper on the nomenclature soon, and am glad you have taken the matter up.—Yours truly CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *March* 10, 1888.

Dear Mr. Briggs,—I am very much obliged to you for the trouble which you are taking. Perhaps I ought not to have expected you to be able to find corresponding specimens to those in my herbarium from you so long since. But I ventured to take the chance, as those specimens would add to the range of the true *lentiginosus* so considerably. I quite agree with you that Lees' plant, of which I have authentic specimens before me, does not go to the *suberecti* as we have erroneously supposed, but to the *Rhamnifolii*, to which also *affinis* goes, as is done by Focke. The supposed western specimens of *lentiginosus* are from "Common Wood, August 4, 1865." It is ticketed, but *not* in your hand, "*incarnatus*, Müll., Genev."! Also the other three to which you gave no name, and for which I have given you the extracts from the tickets. I have marked all the four as probably *lentiginosus* (Lees); and consider Lees' plant to be distinct from *affinis*. Its petiole terminal leaflet = $\frac{1}{3}$ of leaflet,—that of *affinis* = $\frac{1}{2}$ leaflet. The plant suspected by Bloxam to be *plinthostylus* belongs to the *cordifolius* of us. It is from "Dartmoor

Tramway, near Rumple, August 9, 1870." I believe our *cordifolius* is a form of *affinis*, not that of the continent. I have a single specimen from you which I call *plinthostylus* (Genev.) and is described in my Notes No. 1 ("Journal of Botany," January, 1887). It is from "Minster Valley, Cornwall, prostrate amongst gorse, June 30, 1885." I am endeavouring to draw up an account of the *Rubi* as we now consider them, but it is no easy matter, and will take all my spare time for weeks to come. I am now in *Rhamnifolii*, and am delayed by having two large packets to look over for friends who are scratching their hands with brambles.—Believe me to be, yours ever, CHARLES C. BABINGTON.

To F. J. HANBURY, Esq.

CAMBRIDGE, *March* 29, 1888.

Dear Mr. Hanbury,—I return this day by parcel-post your *Hieracia*. The specimens are beautifully preserved, and the drawings admirable. I find myself in accord with Backhouse in almost all respects. I have been very sorry to learn that his health is seriously injured by an accident some time since. I had heard nothing of it. I am glad that the Boswell Herbarium is safely arrived, and will be in such good hands in future. I am surprised that the Edinburgh people did not take care to obtain it. You say that it is the best British Herbarium in existence. I hold that mine is about as good as it could be, but doubtless different in many respects from Syme's. I had the great advantage in knowing Borrer, and obtaining specimens from him. I return the prospectus, which seems very good, but have altered a word in my own letter which must have been a slip of the pen. Are you coming to us soon? With our united kind regards.—Yours truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *April* 27, 1888.

Dear Mr. Briggs,—I see at the foot of page 212 Focke considers that you have sent him *R. leucandrus* from near Plymouth. Do you know anything about it? I think that I have a number of specimens from various places (but not from Plymouth) which may be *leucandrus*. I had called most of them *affinis* until recently. I now place them near to *Salteri*, or *villicaulis*, probably the latter. I have authentic specimens of *leucandrus* from Focke, they are near *gratus*. What is the colour of the petals of your Tamerton Folliot *thyrsoïdeus*? Mr. Rogers sends me one from Bournemouth, ("Avenue Road, Branksome, July 20, 1887"), which seems to be *fragrans* (Focke). Is not yours the same? And has it not pink or purple flowers? Your Devon specimens do not shew the flower. I now

think that Borrer's *carpinifolius* (see E. B. S.) is *rhamnifolius*, and that our *Maassii*, including *Muenteri*, is *nemoralis*. *Grabowskii* is different. Also that Lees' *lentiginosus* is distinct. We also seem to have *bifrons* from Norfolk. This will do for once: if I go on at the same rate, we shall have enough forms, I fear, to trouble all rubologists. I have not got further yet.—Yours truly CHARLES C. BABINGTON.

To J. E. BAGNALL, Esq.

5, BROOKSIDE, CAMBRIDGE, *July* 21, 1888.

Dear Mr. Bagnall,—I have made a note of what you say about *Hystrix* and *rosaceus*. It is very difficult to lay down any distinction between them. *Hystrix* seems to be an exceedingly rare plant in Germany, and lost in Weihe's station at Beek. Focke found one plant of what he thought might be the same near Aachen, but he seems manifestly very doubtful about the plant as a distinct species. He says that he found one solitary plant of what may be a shade form near Spa—the *rubescens* (?) of Lejeune. In short, he seems to know nothing really about the plant, and I suppose (for he does not say) that his description is taken from that. It is not in Genevier's book. In the "Herb. Gen." I find its name doubtfully given to a plant from the Pyrenees, which he places with a specimen of *Hystrix* from Bloxam. He is probably correct in that determination, but they may or may not be the plant of Weihe, of which neither he nor Focke nor I have seen any specimen. There is no proof that Focke means the same plant as Bloxam and Genevier. I must therefore hold to my opinion at present. *R. rosaceus* must be the same, as it stands first in the original book (Bluff and Fingerhuth "Comp. Fl. Germ."). I should like to get out a new "Rubi," but it will take much time. I have extensive notes towards one. If you had fully 500 named forms of continental *Rubi* to work with, you would see the advantage and also the disadvantage under which I lie in the preparation of such a book. The advantages are very great, but they cause much time to be requisite, and I get on very slowly, having many other things to attend to. I am glad to learn that Lord de Tabley goes on with Botany. He will find the brambles more prickly the more he puts his hand amongst them. If you are communicating with him, give my compliments to him, and say how glad I should be to see him here. I did not know that his father was dead.—Yours very truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Aug.* 13, 1888.

Dear Mr. Briggs,—I have just received a "paper apart" from Gelert entitled, "Les Rubus de Danemark et de Slesvig" which contains a French text of much of the "Denmarks og Slesvigs Rubi" which has been of so little use to me from its Danish language. I see

on page 16 that he speaks of you as sending to him the *R. anglo-saxonicus*. I see that it is referred to in the Danish text also as sent from Plymouth with the name of *R. macrophyllus*. Can you give a clue to this plant? I possess the Holstein *R. anglo-saxonicus*. The words are "Dans le jardin botanique de la ville de Lund on tire cette espèce de graines, qui d'après les renseignements de M. Areschoug, ont été envoyées par M. Briggs à Plymouth, avec des indications sur leur origine d'une forme qui probablement se rapproche de très-près de *R. macrophyllus*." It is curious that none of the continental authors seem to have any knowledge of our *sublustris* which is the type of Smith *corylifolius*, and, as I think, very constant in form. Can it be the *Callianthus* (Müll.)? Or is it the *Laschii* of Focke, as seems more probable? Indeed, I think that is it. Of course our *sublustris* is by very far the oldest name. It seems to me to be a specially English plant: not known to the Danes, and not at all well in Germany—although "occurrit passim in dumetis Germ. borealis." Focke says that it is constant from seeds. I have not time to write more now, and send this in its present form in the hope that you may determine the *anglo-saxonicus* this summer. I go north very soon, but at my age, although very well, I cannot do much in the field.—Yours truly, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

SCHOOLHOUSE, BRAEMAR, N.B., *Aug.* 30, 1888.

Dear Mr. Briggs,—I was very much pleased to receive your letter, forwarded to me here. I think that by the information you have so kindly sent I shall be able to identify the *Rubus* sent to Areschoug, as I have no doubt that I have the specimen in question from Elburton. There seems to be no doubt about the *sublustris*. It has always been well known to me: the common and typical *corylifolius* of Smith. He may have included other things under the name, as I have done, but the figure and description are conclusive as to the original plant intended. Few seem to know my supposed varieties (if such they are) but all know the *corylifolius-sublustris*. I have long had it from E. Lees. He knew it well, but made some very singular mistakes amongst the other *Rubi*. The weather is not all that we could wish here, but not much to be complained of. Yesterday we were high up amongst the mountains near Ben Muich Dhui. I am too old to attempt the tops of these fine hills, but take very much pleasure in the upper valleys. There is one hill (3000 feet) close by, upon which we can easily get, as our house is 1100 feet above the sea. On it there is an abundance of *Rubus Chamaemorus* and *saxatilis* (no other bramble is at Braemar except *Idaeus*). *Azalea*, *Vaccinium Vitis-idaea*, (and some *uliginosum*) and *Arctostaphylos-Uva-ursi*; also *Pyrola*, *Cornus suecica*, and *Trientalis*. We have also gathered *Linnaea* near here. But then all these nice things are *out of flower*. The common Dock here

is *aquaticus*, and very fine it is, with its grand club-shaped mass of fruit. *Meum* also is fine. So you see we have a good set of plants to look at—although they will not make good specimens for an herbarium. How different it all is from your southern flora. On the high tops of course there are many other interesting plants, but I do not venture after them. This is a district not only of high hills, but of great distances, and also great obstructions from the deer, which keep us off many nice places. It is a beautifully invigorating air, and we both benefit greatly from it. We hope to remain until the end of September.—Yours truly, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *Dec.* 6, 1888.

Dear Mr. Briggs,—Have you ever gathered a *Trifolium* in Caldown Quarries, Plymouth, agreeing with my *Tr. pratense parviflorum*? The late Mr. W. S. Hore sent me a specimen so long since as 1839, which I have so named. It is a very much smaller plant than *T. pratense*. I gathered it myself at Walton-on-Naze, Essex; and Borrer, near Elgin. It is so different in look that one can hardly think it the same as *T. pratense*, but it may be so, as Godron quotes a *T. microphyllum* of Desv. described in a Journal which I have not at hand, as much smaller and growing in very dry places. I have this same plant from Lange as his *T. pratense microphyllum*, which he supposed might be my plant. He found it in fields near Stockholm. He says "capitulis pedunculatis, floribus pedicillatis, corolla calycis longitudine."* He figured it as my *var. parviflorum* in "Fl. Danica." t. 2782. It seems more deserving of notice than I had supposed.—Yours truly, CHARLES C. BABINGTON.

To W. WILSON, Esq., Junr., *Hillocks of Terpersie, Alford, Aberdeen.*

5, BROOKSIDE, CAMBRIDGE, *Dec.* 6, 1888.

Dear Mr. Wilson,—I have the specimen of my *Trifolium pratense-parviflorum* before me. It has heads not half the size of those of *pratense*, but agrees with it in nearly all other respects, except that these small heads are upon decided stalks, and the corolla is very short. The late Mr. Borrer (a very great authority) thought that it was a form of *pratense*, so does the great Danish botanist, Lange, who published a figure of it in the "Flora Danica" on plate 2782. It seems to be a variety of *T. pratense*, growing on drier ground than the usual wild form of that plant. It is given in all the eight editions of my "Manual," and one of my specimens was found in Brodie Park, Elgin, by the late celebrated botanist, W. Borrer, Esq.; the others are from the south of England. I should like to have seen your plant before giving any name to it, as I can hardly fancy my plant to be of any value for cultivation.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

* Cited from memory; exact words on next page.

To T. R. Archer Briggs, Esq.

5, Brookside, Cambridge, *Dec.* 14, 1888.

Dear Mr. Briggs,—Your *Trifolium pratense sylvestre* is a very wild-looking plant, and is, I presume, the plant intended by Syme. He should have placed it as *a*, and the *sativum* as *β*. My *parviflorum* seemed to me to be only an accidental state, until I found that Lange had figured it as a native plant in Scandinavia in the "Flora Danica," 2782. His definition is, "Capitulis minoribus oblongo-ovatis evidenter pedunculatis, fl. minoribus pedicillatis, calycis dente longiore corollam aequante." I suppose it is another wild form of *T. pratense*. Its heads and flowers are smaller than those of your *sylvestre*. Its long calyx-tooth projects conspicuously from the flowering head. My Plymouth specimen is labelled as from W. S. Hore, 1839. I am sorry to hear that the Caldown Quarries station is destroyed. If you can get me seeds of *Linaria supina* I shall be glad to risk their becoming a "rather troublesome weed." I will do what I can with the brambles when they come. I have got as far as *R. scaber* in my *Revision*. It is No. 43 of identified plants which are distinguishable. I do not say species; they may or may not be. So you see I have still much to do. It is very slow work, not to say difficult. I could not attempt it if I had not my 500—600 continental forms, all authoritatively named. I have just received about fifty more of most valuable specimens in Lindeberg, "Herb. Rub. Scandinaviae," fasc. 1 and 2.—Yours very truly, Charles C. Babington.

To Alfred Fryer, Esq.

Cambridge, *March* 5, 1889.

Dear Mr. Fryer,—I have just laid my hands upon an old letter (April 3, 1867), which recalls to my memory an interesting statement, if authentic, that is, if the *right* plant was found; but also interesting if anything fairly like it grows there. I am in it informed that the Rev. W. F. Eaton found in the Ouse, between Huntingdon and St. Ives, *Nuphar pumila* in 1866, flowering towards the end of June or the beginning of July. "It was abundant in some parts of the river." Do you know anything about this? Of course I presume the place is in Hunts.—Yours truly, Charles C. Babington.

To the Rev. W. Hunt Painter, *Stirchley Rectory, Shifnal.*

5, Brookside, Cambridge, *March* 22, 1889.

Dear Sir,—I am much pleased to learn that you are preparing a "Flora of Derbyshire," and am happy to add my name to the list of subscribers. If I can in any way help you I shall be always ready to do so; so do not scruple to ask me. It is very pleasing to see the spirit in which you are undertaking it, and I am quite sure that God's favour will be given to you in doing it.—Yours truly, Charles C. Babington.

To T. R. Archer Briggs, Esq.

Herbarium, Cambridge, *Oct.* 23, 1889.

. . . . . My attention has been again drawn to *Malva borealis*, which you find near Anthony. I think the figure in "English Botany" is probably not *borealis*, being apparently quite upright. What is the fact with your plant? I have no specimen of it. Does it continue there? I see you consider it to have disappeared on the Fl. Plym. Was it erect or prostrate, or could Hudson's "caule patulo" describe it? The "English Botany" figure is quite erect, and Smith does not anywhere tell us if that is correct. If correct, I can discover nothing like it.—Yours truly, Charles C. Babington.

To the same.

Cambridge, *Oct.* 31, 1889.

Dear Mr. Briggs,—I am very much obliged to you. All is most interesting. I greatly rejoice to obtain specimens of *Rubus Boreanus*, accepted as such by Focke. It differs from what I have believed to be *Boreanus* on the authority of a specimen so named for Baker in 1865 by Genevier, from Wass in Yorkshire (September, 1885). I also believe that I have the same from J. Groves (Bishopstoke, Hants, July 23, 1878), and near Liverpool, August 2, 1870 (Harbord Lewis). All these I once called *Colemanni*. The felt seems most usually present on the true plant, but very variable in quantity. I am glad to have a specimen of the *Malva borealis* from Anthony. *Borealis* and *rotundifolia* are very much like each other. But then what was Hudson's plant from Hythe ("English Botany," 241)? It seems to have been an upright plant. Of course it is of but little consequence what Hudson meant, as the specimen was only accidental, and once found. I am also thankful for the hybrid *Carduus*. I fancy that I have seen specimens very like it.—Believe me to be, yours ever, Charles C. Babington.

To the same.

Cambridge, *Nov.* 8, 1889.

Dear Mr. Briggs,—I am extremely puzzled with the so-called *Rubus ramosus* (Blox.). There is no difficulty with your common plant, which must retain the name which you accepted for it ("Journal of Botany," vii. 35 and ix. 330) in 1869; but the midland plant is very different, and was placed to *R. racemosus* and also to *R. clethraphilus* by Genevier, to neither of which it seems to me that it can belong. It has no trace of felt on the leaves, and a pyramidal, not subcylindrical, panicle. I presume that you have it from Bloxam. I have it from Lancashire, as issued by the Exchange Club as *imbricatus* on my own authority, given to Mr. Lewis. Also I find a specimen from you, "Hedgebank between Plymbridge Road and

Common Wood, Aug. 19, 1875," which Bloxam thought erroneously, might be *plinthostylus*. I do not know what to do with these, as I have not been able to find a name for them in Focke or Genevier. They can hardly be the same species as your *ramosus*, although the form seems present with you. What do you now say to the Egg Buckland plant? I fear that we shall have to give this a new name, much to my sorrow. But if so, how can we find an unused one? It does seem to approach *imbricatus*. I shall be glad to learn your present views upon this plant. It has brought me to a stand in my *Revision*.—Yours very truly, CHARLES C. BABINGTON.

To the Rev. EDWARD S. MARSHALL, *The Mount, Witley, Godalming.*

CAMBRIDGE, *Nov.* 16, 1889.

Dear Mr. Marshall,—I am very much pleased by receiving your letter. I am very ignorant about these hybrid *Epilobia*, and glad that you have taken them in hand. It is very interesting to determine so rare, and for some time doubtful, a plant as *Saxifraga caespitosa*. I have never seen more than a little scrap or two of it. You and Hanbury are doing admirable work. I am obliged to give up the attempt at much hill work, for I cannot do it. I seem to have done nearly all my out-of-door work, but am thankful to say that I can do much indoor work, and am getting on slowly with a careful revision of the *Rubi*. Difficult and very slow work indeed! Hanbury's first number is beautiful. I suppose that there will be another soon. I am rejoiced about the *Betula intermedia*. Its place is rather beyond my reach now, or I should have carefully hunted the hill side near the fall, on the way to Loch Cander. I looked at it from a distance, but felt that I had not strength to get there *and back*. It should really be looked up well. Is it the remnant of a glacial wood, of which only a few trees have survived? But I think there ought to be more. In Iceland it formed an extensive forest of trees about eight to ten feet high. Can you keep *Cerastium arcticum* alive? We have almost failed, if not quite. I suspect that it is not uncommon on the high hills.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Nov.* 18, 1889.

Dear Mr. Briggs,—I am very much obliged to you for the notes on the midland and western *Rubus ramosus*. Have you any idea if Focke gave any name to the latter? I want very much to find one. (Your notes are most valuable to me). But I fear that they are both unknown to him in Germany. I cannot lay my hands on the *plinthostylus* of Blox. which you sent formerly, and I suspected

might be *Colemanni*, unless it is an anonymous specimen ("Hedge, Fursdon, July 13, 1886") which you said "approaches *incurvatus* but is not any described species." But that is slightly felted, and may approach your *ramosus*. These plants are very hard. How much more convenient if we could make a few aggregate species, as Baker has done in the "Student's Flora." But I do not see my way to doing this, and wishing it will not do it. I freely confess that I do not see my way amongst these (so to call them) *ramosi*. Did Focke give any idea as to where he would place your *ramosus*? Although not known to him, it surely must have been known to Genevier: but his book is very difficult to use, and therefore his herbarium, arranged according to it. The exceeding weight which he placed on the colour of the petals seems to separate nearly allied plants often very greatly. Have you formed any idea of what he would have done with our *ramosi*? or any of them? I shall probably have to write about the others you mention in due time but not now; only I should like to know what it is that he has named *Devoniensis*. I see that Focke places *brachyphyllos* to *arduennensis*, and that I have thought it might be my *discolor-pubescens* or *pubigerus*. I fear that I cannot have anything to do with the plant in question. Amongst difficulties such as these, your notes would be invaluable. I will write again soon.—Yours truly, CHARLES C. BABINGTON.

To the Rev. E. S. MARSHALL.

CAMBRIDGE, *Nov.* 19, 1889.

Dear Mr. Marshall,—I have thankfully received the root of *Saxifraga caespitosa* which you have so kindly sent. I have placed it in the hands of the curator of our Garden, as a much more safe place to grow it than any that I can give to it. I believe *S. caespitosa* to be a quite distinct species. I am happy to say that our plant of *Cerastium arcticum* has recovered and grown well this summer. It is now dying down for the winter. I have no doubt that most, if not all, of what we have called *C. latifolium* is *C. arcticum*.—Yours very truly, CHARLES C. BABINGTON.

To W. WILSON, Esq., Junr.

CAMBRIDGE, *Nov.* 27, 1889.

Dear Mr. Wilson,—I have read your book with much interest, and made a few notes as I went on. I now enclose them without revision, as they may interest you. I think that your book is a very valuable one. Wishing you all the happiness that you can desire, I am, yours very truly, CHARLES C. BABINGTON.

NOTES.

Soil. You can hardly ever find clay or sand even nearly pure; except some feet beneath the surface. The present surface is always much altered from the geological structure, by the decomposition of the plants which have grown upon it. Peat, such as we have in the Fens, and is found in your deep peat-mosses, is very different from the peaty soil found on higher land, and of course requires totally different treatment. We want peaty soil to grow some plants in our Botanical Garden, and have to send many miles for it, although we have abundance of the fen-peat close at hand. When your results differ from those of Mr. Carruthers and other observers, such as Sir J. Lawes, we must remember that their results are obtained in the *south* of England, and yours in the *north* of Scotland. This will account for very great difference in results. Of course, what is wanted for *alternate* culture is very different from the requirements of *permanent* pasture. One single Grass may be best for the former; but certainly not for the latter. It is clear that nature provides a mixture on old (*very* old) pastures which have *never*, or not for a very long time, been touched by the plough. A square yard of very old pasture, such as sheep like, or probably beasts also, will be found to produce many plants in various quantities—far from being all grasses. In laying down permanent pasture, that has to be attended to, as far as it can in each climate.

Oats. In Ireland where the climate is very damp and mild, the oat is almost the only cereal which can be cultivated with tolerable success. Dampness seems to have more to do with it than elevation or heat. The west of Ireland, where it is almost the only grain which succeeds, is hardly ever visited by frost, and has comparatively little direct sunshine in the summer: scarcely a day without rain, and a constant very damp air from the Atlantic. It is not therefore elevation or latitude which will altogether account for its success or failure in cultivation. You have those disadvantages, and they are probably the causes with you. *Lolium perenne*, the true Rye-Grass, is a native in nearly the whole of Scandinavia, if we leave out Lapland. Of course, in those northern districts it renews itself from seed in the natural way.

Rhinanthus Crista-galli I fear injures the grass. It is partially a parasite on the roots of grass, and I am always sorry to see it on grass land. Probably *Ulex* might be cultivated with advantage in some places. Sheep are very fond of its young shoots.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Nov.* 29, 1889.

Dear Sir,—Your *ramosus* (form 2) just sent to me does seem very like *macrostemon* which I have before me (*Rub. Select.* 60), but, as you say, the leaves are more decidedly felted, especially those of the flower-shoots. Focke says, "as a rule white-felted beneath." It is probable therefore that they vary in that respect. He also says, on p. 192, "foliola . . . raro virentia." Specimens from you labelled "By the turnpike-road between Horrabridge Railway Station and Tavistock, Aug. 21, 1869," shew a great tendency to have felt on the leaves, and are exceedingly like the *Rub. Select.* 60.

I thank you greatly for helping me to a name for this Devon plant, for I purpose adopting *macrostemon*. Notwithstanding your letter of Nov. 27, I am inclined to retain the name of *macrostemon* for this. I am rather in doubt about your other plants. First of my herbarium specimens, I do not see how to distinguish the "Hedge Bank between Plymbridge and Common Wood, Egg Buckland, Aug. 19, 1875" (which you told me at that time, or rather with the specimen, that Bloxam thought *plinthostylus*, but I decided was not that, and you agree with me) from that of "Hedge, Fursdon, Egg Buckland, July 13, 1886," which you then thought approached *incurvatus*, but was new. It is a beautiful plant, and seems to me to be very near to the above (Aug. 19) one. What do you think of the "Derriford, July 29, 1887," now sent to me as *ramosus* (Blox.)? Do you think it is the same as what I am now calling *macrostemon*? That Focke should have found our Brambles not exactly like the German ones is what I expected, for I think we can see such slight differences between those even of different parts of Great Britain. I hope that he will soon write in the "Journal of Botany" about what he saw in England, and in such a manner as to enable us to identify his plants. Why have you sent *Boreanus* from Laira? Is it not correct? I think so; I cannot detect it in your "Flora," and have only seen it from Lancashire and Hants, as *magnificus* from Staffordshire by Painter, and as *Boreanus* (Genev.) from Baker, Yorkshire. I find in my notes that Focke identified a plant from Plymouth as *Boreanus*, and that it differs from that authenticated by Genevier by being slightly felted. But that probably does not matter, as the specimens in the "Herb. Genev." seem all to be slightly felted. Do send the notes about *Devoniensis*. I see that Bloxam spoke of it in connexion with *brachyphyllus*, but I do not at all agree with that. I have authentic *brachyphyllus* before me (Wirtg. "H. Rub." ed. I. 128, and ed. II. 61), and they seem different. Under what name did you formerly send it to me? I do not know where to look for it. But I have to stop now.—Yours ever most truly, CHARLES C. BABINGTON.

If in London, why not come here? We should be much pleased to see you for a few days if notice is given, and you could work all day one after another at *Rubi*.

To the same.

CAMBRIDGE, *Jan.* 14, 1890.

Dear Mr. Briggs,—Now for the Plymouth plant which we have apparently erroneously called *incurvatus*. I have no doubt misled you; but my tendency is always to avoid a new name, and no separation if I can. I consider it wiser to do so, than to do as some do, rush into separation and new nomenclature. I had always rather *not* see "Bab." after a specific name. But I think that in this case a new name must be given, unless we can find one, if Genevier

or Focke will give us one. On the next page I give a copy of my notes on your false *incurvatus*. Shall we call it *Dumnoniensis*? or will Focke give it a name? Please to criticise my description fully. I will write further about *anglo-saxonicus*, but you may like to have this *now*.—Yours very truly, CHARLES C. BABINGTON.

To Rev. E. S. MARSHALL.

CAMBRIDGE, *Jan.* 31, 1890.

Dear Mr. Marshall,—I am exceedingly sorry. I thought that I had sent a post card to acknowledge the receipt of your very valuable parcel. But it appears that I neglected to do so. Pray pardon me. I have been so much occupied since it came that I have not been able to examine its contents. It shall be done very soon, as I much desire to do so. I will look to the *Saxifraga* which is at the Botanical Garden. Although *S. caespitosa* is very valuable, *S. groenlandica* will be quite as much so. I hope the root is doing well, Mr. Lynch thought it would, and then we shall probably have flowers on it in the summer. Hooker in his "Fl. Bor. Amer." I. 244 places it as a synonym of *S. caespitosa*. De Candolle ("Prod." IV. 27) keeps it distinct, and says that it grows in the Pyrenees. He says, "dense caespitosa viscosa, foliis densissime imbricatis pubescentibus viscidis cuneatis apice profunde 3-5-lobis, lobis obtusis (*note this*), scapo subaphyllo, floribus capitatis, petalis obovatis albis venis pallide purpureis calyce multo longioribus, filamentis staminum purpureis, stylis post anthesin valde divaricatis." He gives this as that of Lapeyrouse. It is given as a distinct species in the "Fl. de France" I. 649, where there is a long description of the Pyrenean plant. It is also said there that the . . . . .

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *Feb.* 3, 1890.

Dear Mr. Briggs,—I do not know what you will say to me, for I am placing *R. Boreanus* under *R. vestitus* (*R. leucostachys* Sm.), for I cannot distinguish our plants which I have under those names. We know very little concerning our supposed *R. Boreanus*. Genevier, who ought to know, was very doubtful about them. There is no doubt that some states of *vestitus* do approach the *spectabiles*. I always had a hankering after Swainson's mode of classification (he applied it to birds) of a series of circles touching each other on all sides. But I believe it is quite thrown aside now as untenable. Certainly a linear arrangement is very bad; but what else can we do? I have a specimen before me which seems to be what Bloxam called *Warrenii* in 1873. F. M. Webb gathered it (and Bloxam authenticated it) by Knutsford Moor, Cheshire. I have it from you as not specified (?) from between

Cornford Wood and Dartmoor (July 28, 1879). I then apparently gave it no name. I agree with Bagnall in placing it near (or into) *R. villicaulis*, but Bloxam said, "one of the *Bellardiani*." I agree with Bagnall. Do you know anything of it? I am very much obliged to you for so kindly sending me the specimen from Old Park, Warwick. It is very like *amplificatus*. Have I not the same plant from you as *mucronatus* ("near Carkeel, July 31, 1860")? The Old Park plant seems very like *amphichlorus* of Genevier, and that I cannot distinguish from *amplificatus*. I have not seen Linton's plant ("Journal of Botany," 1888, 329), but incline to place . . . . .

To the Rev. E. S. MARSHALL.

CAMBRIDGE, *March* 14, 1890.

Dear Mr. Marshall,—On the annexed page I have made a few notes upon the exceedingly interesting packet of specimens which you have so kindly sent to me. I am very sorry for the delay, but I have been very much occupied. I am sorry that I cannot give any valuable opinion upon the *Arctia*. The specimens are hardly complete enough, and I do not venture to name them. I presume that Hanbury has seen the *Hieracia*. I quite trust him now for names of them. I am looking for your paper on *Epilobia* and *Festuca heterophylla*. I think that you are rather hard upon Nyman in your former letter. He had *all* Europe to attend to, and so must have made many mistakes. The mistake some of our people make is in accepting his determination as of far too much authority. We must look into every point ourselves before we adopt his views in our Flora. They are most valuable to us, as giving us new ideas to work upon. Your flowerless *Rub. villicaulis* seems to me to approach far more nearly to our *carpinifolius*. *R. rhamnifolius* from Cranbrook is not satisfactory. I think it is allied to *affinis*. The dentition of the leaves is not what I expect. These plants are very difficult. I have several things under *affinis* which can hardly belong there. To which section should *affinis* go? To *Rhamnifolii* I think. *R. Koehleri* from Hangley is surely not correctly named. I never saw *Koehleri* with such a stem. It is very near to *R. cerinostylus* (Müll.), of which I have an authentic specimen, but not the description before me. Is not the other without a name the same? or do they do to *hirtus*?—Believe me to be, yours truly, CHARLES C. BABINGTON.

Cochlearias. I am much interested by these. I wish you would work out their characters.

Viola. Is not the plant from soil of the Lizard—v. *cornuta* (L.)?

Polygonum from Worplesdon is apparently *minus*.

Mentha. Witley. Closely approaches *aquatica*. Is it a hybrid?

Luzula. What is your evidence of the hybridity of *L. Borreri*? I think it is so, but have had no proof.

Ranunculus Baudotii. An interesting stem without floating leaves apparently.

Armeria v. *duriuscula.* I think it is.

Potamogeton. A very interesting form of *natans.*

Ranunculus Drouetii? No. Can it be *triphyllus*?

R. Baudotii. Good. From Sandwich.

Polygonum Roberti is I believe undeterminable, and includes bits of several plants, it is doubtless my *Raii.*

Arabis petraea v. *grandiflora.* Has Druce published this anywhere?

Carex flava + *pulla.* May not this be *C. lepidocarpa*?

Callitriche stagnalis-serpyllifolia is interesting.

Car. limosa from Kingshouse requires attention.

Salix Lapponum from Corrie Ardran. I am sorry that I can give no opinion on this. I do not understand the Alpine *Salices.*

Betula from Glen Falloch is very like *Norwegica,* as figured by Reichenbach, "Icones," XII. 624, a form of *carpatica.* The scale will not do for *intermedia.*

Cochlearia groenlandica. Very curious pouches.

Hieracium. Many thanks for the beautiful set of these.

Aira multiculmis. Beautiful.

Poa Balfour. montana. Florets not quite free here, but I think it should be so named. Many thanks for the most valuable set of Hackel's named specimens.

Epilobium Lamyi is still a puzzle to me.

Epilobium adnatum is I suppose a synonym for my *tetragonum.*

To HENRY GROVES, Esq.

CAMBRIDGE, *March* 18, 1890.

Dear Mr. Groves,—I am rather fully occupied, but if allowed time, will do what I can with the specimens you think fit to send me, especially with the *Rubi.* Please inform me what of them I may retain for my own use. Please also direct the parcel to me at "The Herbarium, Free School Lane, Cambridge," as that will be more convenient than if it came to my house, more than half-a-mile from the plants. I am very much obliged to you for the copy of your paper upon *Chara Nordstedtiana.* I have been much pleased to receive several specimens of it, but all from the same place. I found two, one a *Chara* and the other a *Nitella,* at 1700 to 1800 feet at Braemar. Have you had any from there? I have not yet named them. Shall I send them for you to examine and partially retain? If I am again at Braemar in September, would you like to have fresh specimens of *Characeae* from there? I do not think that there are more than those two.—With my kind regards to your brother, believe me to be, most truly yours, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *April* 12, 1890.

Dear Mr. Groves,—I return the list of the Exchange Club *Rubi* with such notes as seem to be wanted. I have given much time to them, and have been very much interested. I find amongst the notes so kindly sent to me the enclosed, which I cannot refer to any of the specimens. Can you help me? These notes of Focke and Baker

are of great value to me. I think that I had better send you fresh *Charas* from Braemar, as I hope to be there in September.—Yours truly, CHARLES C. BABINGTON.

To the Rev. W. MOYLE ROGERS, *Pine Dene, Branksome Park, Bournemouth.*

CAMBRIDGE, *May* 28, 1890.

Dear Mr. Rogers,—I am very much obliged to you for the separate copy of Focke's paper. If you are writing to him, please thank him for putting my name on his list, and also for speaking so kindly of me in it. Please also tell him that I do not live in a district of Brambles, and have therefore to be satisfied in my study with herbarium specimens chiefly, and therefore labour under much difficulty. I quite agree with Focke that the rare forms, found perhaps in a single small district, are very difficult to allocate. But we must have some name for them, in most cases: in all cases where we cannot find some fair cause for placing them as abnormal forms of some named plant. I should be inclined to this latter course in very many cases if I could see my way to what I believe will prove the true course, but unfortunately, in many cases I cannot see it. I much wish to learn what are the aggregate species, but am often obliged to leave the segregates separate from want of sufficient knowledge of the forms. Briggs and you, who live in Bramble districts, might in due time do much for us in this respect.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *June* 7, 1890.

Dear Mr. Briggs,—I am very much inclined to think that our name *Dumnoniensis* will stand, and that it is not *rotundatus* (Müll.). Is it not arcuate-prostrate? Levent says of his plant in "Herb. Genev." "tige dressée arquée au sommet." That also has a remarkably spongy angular stem with depressed flat sides forming depressed faces rather than furrows. Genev. says "canaliculée," which may mean such a form, or may not. Its panicle also seems very different. I have a good series in "Herb. Genev." Our name must be spelt with a *u* not an *a*. I have a note that I think *Devoniensis* belongs to *Schlechtendalii*, and another expressing doubt: but allowing that, it is probably a form going under aggregate *macrophyllus*. I certainly look with much interest for Focke's views on this subject (which I do not find that he has given). I have been looking at *R. erythrinus*. Its want of felt seems to keep it off from *rhamnifolius*. I cannot see the alliance with *Sprengelii* of which Genevier speaks. It may indeed be very near to the *R. nemoralis*. It does not seem to me to agree very well with Genevier's specimens of *erythrinus*, although it is not unlikely that they are the same species. Then again there are specimens which we have been used to call *Lindleianus* which are very like it. The pyramidal panicle

I have not noticed in true *Lindleianus*. Focke seems to be *quite sure* about the name, and that must have very great weight with us. Genevier's arrangement is so peculiar that it cannot have much weight with us. It seems to me exceedingly artificial, but even so, why is *erythrinus* placed next to *Sprengelii*? I find in "Herb. Hiern" a specimen from Ilford Bridges which you have named *R. Hystrix*. Surely that can hardly be correct. It seems to me to be more nearly related to *R. diversifolius*, and is exceedingly like the *R. oreogeton* (?) (Mr. Linton from Shirley, 19 VII. 1877). On that I find a note that I thought it very like *R. Laschii* (Focke), and they are doubtless very closely allied. I am again much troubled by the *R. foliosus*. I think that your plant is *pyramidalis* (Müll.), Focke 261 (not the true *Banningii*). I also think that Bloxam was correct in calling his Twycross plant *atro-rubens* in 1869, but Wirtgen seems never to have described that; and Müller calls it *adornatus* in 1859. I see you do not notice the *R. scaber* (?) of St. Rudeaux (1877), which I have referred to *R. debilis*. What did Focke call it, if he saw it? The name cannot stand, as there is a *debilis* of J. Ball (1872). N. E. Brown intends to call it *cognatus* in the suppl. to "Sym. E. B." now in the press. I am much obliged by the extract from Focke's letter, although I do not quite understand it. Does he mean that you *have* the true *R. Lejeunii*, or that we *have not* got the true plant? Under what name did the "Ham Valley and Lancy" plant ever come to me? I can find none such specimens. I have come to the conclusion that *R. Lejeunii* as known to me in England is the *R. Fuckelii* of Wirtgen, described by Focke on page 308. I possess the *Herb. rub. rhen.* specimen there referred to, and think many of our specimens accord well with it. Then again I have others which seem much like *R. disjunctus* (Müll.) especially one from Limerick. *R. disjunctus* seems to have *divaricate* panicle-branches, and *Fuckelii* (and your specimens from St. Germans, Cutness Bridge, and St. Mellion) have them erect-patent. I must confess that this puzzles me greatly. I should like to find that our almost obovate *lanceolate*-leaved plant is *disjunctus* = *Lejeunii* (Genev.), and the much broader leaved is *Fuckelii*; and the two forms of one species: leaving Focke's *Lejeunii* as different and unknown to me. I hope you will understand all this—I confess I hardly do myself.—Yours ever (may we long continue to puzzle each other in this way), CHARLES C. BABINGTON.

To T. R. ARCHER BRIGGS, Esq.

CAMBRIDGE, *July* 30, 1890.

Dear Mr. Briggs,—Many thanks for the information concerning *Rubus Dumnoniensis*. I think that it is certainly not *R. rotundus*. I have placed *R. erythrinus* next to *R. Lindleianus*, and find much difficulty in distinguishing them from herbarium specimens. Your paper has helped me greatly, but there are many specimens which admit of

much doubt. If the colour of the flower is of value, as I suppose to be the case, we are quite unable to decide from herbarium specimens in some cases. Your specimens (the only representation of the plant which I possess) agree very well with those of Genevier in the Herbarium. Do you know Mr. Ley's *R. Genevierii*? I have not seen the Clifford Wood plant, but have one from him from Carey Wood, which is probably the same. I have a beautiful series in the "Herb. Genev.," which seem to agree with the Carey Wood plant, and with one received many years since from near Gourock in Scotland. N. E. Brown proposes to name my *R. debilis* anew, and to call it *R. cognatus* in the Supplement to "Syme's English Botany." I have his proof sheet before me. I find a note in my MS., that "on some of the stems the prickles are many, but short; they are usually moderate in quantity. Are the setae deciduous? I find them tolerably abundant on some stems, but apparently absent from others. Sometimes the toothing of the leaves is rather strong, and shews a tendency to become double." I know nothing of the true *R. Lejeunii* in England, and think that our so-named plant is *R. Fuckelii*. And now for a new point. I have just been seeing what I could do with *R. sertiflorus* (?) and the *Lohrii*, and incline to the opinion that we have both, and that they are distinct, or at least distinguishable. The former has felted leaves, with what seems to be different toothing. Have you noticed anything of this kind? Have you made out anything about the plant from Shalaford, July, 1886, and July, 1874, and Horrabridge, August 22, 1869, which we used to confound with *R. ramosus* of Bloxam? I hardly think that I can be correct in calling it *R. macrostemon*. I think that Focke gave no name to it. Has he since done so? It seems to belong to the *Rhamnifolii*, and is not much like Focke's specimen (*Rub. Select.* 60). What becomes of the Lyme Regis *R. Winteri*?—is it one of the allies of *R. ramosus*, or the R. G. *R. discolor*? I have not seen it. Can they both go to my aggregate plant *R. nemoralis*, which includes *Maassii*, *Muenteri*, *amphichloros*, *Neumani*? It now seems to me that its true place is near these, though perhaps not *in* that aggregate. I wish Focke would tell us something about his *R. Devoniensis*. I have sent a notice of the *R. Dumnoniensis* to the "Journal of Botany," as it may as well be put on record, but suppose it will not appear for a few months. What is the *R. scaber* of Bickley Vale accepted by Focke? Have I not got it with the locality otherwise described? Is it St. Rudeaux? Is it the *R. scaber* of my "Notes" (1886)? I have now got fairly through the plants as far as the end of the *Radulae*; and am about to take my holiday in the north. So no more of troubling you about them until October. Please God that I am preserved in health and strength, I hope to go on with the *Koehleriani* then. But it may be most convenient to you to answer this before that time: if so, please do so; and I can keep it for use then.—Yours very truly, CHARLES C. BABINGTON.

To T. R. Archer Briggs, Esq.

Braemar, N.B., *Aug.* 8, 1890.

Dear Mr. Briggs,—I am very much obliged to you for your valuable letter, which will meet with the requisite attention I hope in October. I, yesterday, gathered three species of *Pyrola* on the mountain near this place, and as I *now* do not go very high, I cannot expect to see the alpine plants this year. I do not know if any other botanists will find their way here. My old friend, Mr. Townsend, has come to refresh after the labours of Parliament, from which he has suffered considerably I fear.—Yours most truly, Charles C. Babington.

To Frederick J. Hanbury, Esq.

Braemar, *Sept.* 3, 1890.

Dear Mr. Hanbury,—I am very much obliged to you for the information concerning the *Hieracia*. I am very glad that I sent two—although I had no intention of doing so—as I thereby obtained the names of them both. I now quite clearly see the points of difference. I am not doing much here,—only adding a few of the low country plants to my list of Braemar plants below about 2500 feet of elevation. I have got a very good list: and such a list seems never to have been made, and may therefore be of interest. Several plants marked as found here in Dickie's "Flora" seem to have been mistakes, but not unnatural ones at the time when he wrote. I am glad to learn that you have been again in the north, and been successful there. Townsend is here, and is much interested in the Flora, and is, as I hope, restoring health, much injured by the House of Commons. I hope that we shall now have good weather. It is singular how many early plants have not yet passed away. The season is wonderfully backward. Accept I request you, our very kindest wishes for you and Mrs. Hanbury, and the children.—Believe me to be, most truly yours, Charles C. Babington.

To Professor J. W. H. Trail, *University, Aberdeen.*

Cambridge, *Nov.* 1890.

Dear Dr. Trail,—I was in great fear when I read the Valedictory on the cover of the "Scottish Naturalist," and I am much pleased to learn that you have not separated from it, but will attend to the Botanical part. I look upon it as a most valuable journal, capable of being made more and more valuable as the different Societies in Scotland are persuaded to communicate their better papers to it. It is most inconvenient in Scotland, and also in England, to find these local bodies issuing valuable papers in their local publications, which are hardly accessible to those who are not members of them—and that we cannot be of all these bodies. I hope that Mr. Clarke will be able to give time to the "Scottish Naturalist," and extend its value. My friend Dr. White and yourself have made it of very much value, and Mr. White must try and emulate you as editor. I

send my Braemar list, which if not considered well fitted for the "Scottish Naturalist," as I fear may be the case, I may ask you kindly to return to me. Should it be admitted, I suppose that I may have fifty separate copies to give away to botanical friends.—Believe me to be, very truly yours, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

CAMBRIDGE, *Nov.* 4, 1890.

Dear Mr. Groves,—Many thanks for the information concerning the Chippenham Fen *Chara*. I now send specimens, not to be returned, of *Charae* from Braemar. They grew at about 1200 feet above the sea, or a little more. The barren one from the "Queen's Drive" was abundant in a deep pool at the higher elevation. I looked carefully for fruit, but could find none. The other was in running water near the village. Please let me have the names.—Yours very truly, CHARLES C. BABINGTON.

I do not know what to say about the *Lycopodiums*. I have a plant from several places. Baker has named several *complanatum*. A bit from Skye seems correct as Baker thought; the others puzzle me greatly.

To Professor J. W. H. TRAIL.

5, BROOKSIDE, CAMBRIDGE, *Nov.* 6, 1890.

Dear Sir,—I hope that you will succeed in making the "Scottish Naturalist" the organ of the Scottish Natural History Societies and Field Clubs. It is a very great convenience to have the scattered papers collected into one journal, for we at a distance have very little chance of seeing the publications of local societies. It would be much for the benefit of the authors to have these papers so collected together, and easy of reference. I was intending to write to know if you would like to have a list of the plants seen by me in the lower country of Braemar during the last four or five autumns. They amount to about 360 species, and nearly all of them would occupy not more than *one* line of printing. I think that such a separation of the species is more convenient in many ways than lumping the species of a genus together, as is often done. I am not aware that the "low" growing plants of a mountain valley have ever been carefully recorded, and such a list seems of much interest to me.—Yours faithfully, CHARLES C. BABINGTON.

To HENRY GROVES, Esq.

CAMBRIDGE, *Dec.* 24, 1890.

Dear Mr. Groves,—I think you may fail to see a paper by M. Hy on *Characeae* in the "Bulletin Soc. Botan. de France," XXXVII. p. xlvi., just published. I think it may pay you to find this publication and read it. It extends to several pages, and notices the same plants as ours.—Believe me, with all the best wishes for the season, yours ever, CHARLES C. BABINGTON.

To T. R. Archer Briggs, Esq.

Cambridge, *Jan.* 5, 1891.

Dear Mr. Briggs,—There seems much difficulty in the name of *Rubus Lejeunii*. I fancy that the plant which I have been accustomed to call by that name must take that of *R. Fuckelii* (Wirtg.). It is Genevier's plant (p. 137) but not Wirtgen's. I think that that will go into a rather unnatural group called *Egregii* by Friderichsen and Gelert—"Turiones fere glabri vel parce pilosi glandulis stipitatis setisque* gracilibus sparsis vel paucissimis (vel in singulis internodiis absentibus) muniti. Inflorescentia composita, rami et pedunculi et imprimis bractea glandulis stipitatis sparsis pilis fere aequilongis, vel numerosis inaequalibus pilos partim multo superantibus." They place in it *egregius*, *Neumani*, *Gelertii*, *anglosaxonicus*, *mucronatus*, *cimbricus*. You may probably not have seen their Danish paper apart, with which I have been favoured. Focke's *R. Lejeunii* (which I suppose is the true plant) = yours, and is very close indeed to *rosaceus*. He says nothing about the calyx which is so markedly reflexed from fruit on your plant, but stated to be reflexed in R. G. Focke seems to have known but little about it. Also Godron ("Mon. Rub. Nancy") says† of sepals "fructu maturescente reflexa." We must be therefore still in doubt about the true name. One of yours marked as doubtfully accepted by Focke as *Lejeunii* seems to me exceedingly like *R. oreades* (Müll. and Wirtg.). I have their 81 before me at this moment and 154, as well as several specimens named by Genevier. It is ticketed "*R. Lejeunii*, hedgebank, Derriford, July 30, 1890. Focke thinks this *Lejeunii*." Can all yours be really *oreades*? Possibly this shews that *oreades* and *Lejeunii* are the same. I will look again into the questionable *diversifolius* from near Common Wood, with your remarks. *R. thyrsiflorus* (*thyrsifer*?). I am thankful for your remark that this cannot go with the *thyrsifer* of Plymouth. Your doubtful *macrophyllus* from Crabtree is very like the specimens from Baker, placed with *absconditus* by Genevier, but it has not the strong hooked panicle-prickles of those specimens. I do not think that it can belong to *absconditus*. I cannot find anything quite like it. I am glad to learn that Focke names the Fursdon *Sylvaticus* as we do. Its differing slightly from the German plant is not at all wonderful. These are all I think that you refer to in the letter of Dec. 19. This severe weather, the Therm. down to 3° outside my study window, and the distance of fully half-a-mile of the Herbarium from our house, has separated me for a time from my work. I dare not now expose myself as I used to do.—Believe me to be, very truly yours, Charles C. Babington.

To Henry Groves, Esq.

Cambridge, *Feb.* 11, 1891.

Dear Mr. Groves,—Surely they must have the *Atriplex Babingtonii* on their coast—it is so common on ours. But the only specimens I

* Setae = aciculi. † Page 17.

find in "Herb. Genev." are from Sweden. I have not had any recent seeds of it, as I have not collected the plant recently—not wanting specimens. So I fear I cannot help my good correspondent Mr. Lloyd, neither have I any specimens to send to him of the plant.—Yours truly, CHARLES C. BABINGTON.

To the Rev. W. HUNT PAINTER.

CAMBRIDGE, *March* 14, 1891.

Dear Mr. Painter,—I do not wonder at your being puzzled with the *Rubi*. It often takes me some hours to arrive at even an approximate determination of a specimen—even if very good, as yours are, and I am sorry to add that good specimens are an exception. I think that Focke, and the Danes, and ourselves are usually fairly agreed, even in difficult cases. Our botanists differ, because I believe some of our leading authorities have not the requisite time to give to the questions; and therefore their conclusions are not so weighty as could be desired. I do not think that with our present knowledge we should be justified in reverting to the old ideas, and thus escaping from our difficulties. Even this trouble commenced as early as Smith and Borrer's time: it has simply increased as we got to know more. *R. melanoxylon*. I agree that this is the name of your Lark Edge plant. Mr. Rogers sent me *melanoxylon* in its more glandular state, from Wass Bank in Yorkshire. I have it from Purchas, as authenticated by Focke. I have also the *R. melanodermis*, which looks much different, from the south. I think the Biddulph plant is not the same. I made a mistake, pray excuse me. It is probably a state of *R. Lindleianus*. You mention having sent two sheets, but I only find *one* of those named by Focke. I am glad that you have a true *melanoxylon*. You must have received *melanodermis* from Devon or Dorset. I do now think that your *anglo-saxonicus* is different from *danicus*. It is like the *anglo-saxonicus* of the "Rub. Exsicc. Dan.," No. 41. I therefore now agree with you. At present I do not see how to separate it from *Gelertii* of the same fine collection, Nos. 39, 40; and as *Gelertii* is No. 80 in the original paper, and *anglo-saxonicus* 81, I feel bound provisionally to use *Gelertii* as the name. I have authentic specimens of that also. I fear that this is the *little* that I can do for you.—Yours ever, CHARLES C. BABINGTON.

To the same.

CAMBRIDGE, *April* 18, 1891.

Dear Mr. Painter,—You have set me a hard task. I cannot distinguish the specimens from Denmark of *anglo-saxonicus* and *Gelertii*. I find in my notes to that effect: the former "seems only to differ by having a less hairy stem, leaflets rather more coarsely and doubly dentate with very fine pale greenish felt beneath (?) the

terminal leaflet nearly entire at the base, panicle somewhat more open and longer, with branches more corymbose, and bearing sunken setae and aciculi, and pale pink petals." I had your Matlock Bath plant in view. It seems to me that the shape of the base of the terminal leaflet is not constant. Probably *Gelertii* ought to have a cordate based leaflet. Most of my Danish specimens have, but not all. *Anglo-saxonicus* seems to have the same part *not* notched. Then there is *danicus*. I fear that there is a great deal too much splitting here. Then comes the question of the true *rudis*. I find no specimen in "R. Exsicc. Dan.," but several from Focke according with Bailey's Rengate (?) plant. The true plant seems to have a panicle with ultra-axillary branches markedly patent. On your *anglo-saxonicus* I presume that they are ascending, often markedly so. I then do *not* place your Matlock Bath plant to *rudis*, and think that it is *anglo-saxonicus*, but very near also to *Gelertii*. I find at the end of my notes the remark, "Have we the true *R. Gelertii*, or the true *R. anglo-saxonicus*, or both? This determination, to me a very difficult question, must be left for future consideration when we know more about the plants. The difficulty is increased when we find Focke naming the Matlock Bath plant, *R. rudis*, which I think it is not." I fear I have not helped you much, if at all, but I can do no more. The more I get to know, or fancy I know, about *Rubi*, the harder they seem. What are we to do about grouping them?—for all cannot be "species," even in the most lax view of the term. I am not an evolutionist, but believe in much variation amongst plants. I think that Zoology shews us that evolution will not stand. Read Dawson's book if you can, published by Religious Tract Society.—Yours truly, CHARLES C. BABINGTON.

To W. WILSON, Esq., Junr.

CAMBRIDGE, *June* 3, 1891.

Dear Sir,—I have long delayed answering your letter, owing to circumstances which I need not enter into. I know very little about the distinction of grasses by the foliage alone; but you seem to be making much out on that subject: although I fear that you are correct in saying that we have no facts to rely upon at present. It would be very useful if we had them. Then comes the question: What effect has climate upon such differences? I fear much. You will do well to follow up your own careful observations on this matter, for it is one of much interest. I fear that I can give you no help in it.—Yours truly, CHARLES C. BABINGTON.

To Messrs. H. and J. GROVES.

BROOKSIDE, CAMBRIDGE, *April* 7, 1892.

Dear Messrs. Groves,—I hope that I may obtain a copy of your "British Characeae" for our Herbarium, and so I shall be obliged by your sending it to me here, and I will return the money due.

I have been very ill for some months, and so only now know of what you are doing, or should have applied sooner.—Believe me to be, very truly yours, CHARLES C. BABINGTON (*per* A. M. B.).

To the Rev. W. MOYLE ROGERS.

BROOKSIDE, CAMBRIDGE, *April* 7, 1892.

Dear Mr. Rogers,—I am rejoiced to see your essay as a Key to our "Rubi." It is much wanted. I have been laid aside by a long illness since last September, and am only now just beginning to get about the bedroom, a thing to be indeed greatly thankful for at my age. I have therefore been totally separated from my "Rubi." I have got a large quantity of MS. towards a projected "Revision of the British Rubi," but when my plan will be completed I cannot at all tell. I see that the first fascicle of "British Rubi" is now ready, and fear I may not have subscribed for it. I particularly wish to have a copy in our Herbarium, and hope that I am not now too late. I look to you as an authority on *Rubi*, although I hope to do something more in future.—Believe me to be, very truly yours, CHARLES C. BABINGTON (*per* A. M. B.).

To the same.

BROOKSIDE, CAMBRIDGE, *June* 24, 1892.

Dear Mr. Rogers,—You have made a great discovery, and may I think, take the specimen as really the *R. Borreri* of Salter. He was so accurate in his naming (as far as we then knew), that I have no doubt about his having given the true plant to Borrer. I do not think that he issued different plants under that name, and would be specially careful in this case. I am happy to say that I am getting on, but not able to examine my specimens. I think that you may be quite satisfied with what you have found as deciding Salter's plant. If my idea of its being the *intectus* of Müller is correct, that will not prevent Salter's name being retained. Go on boldly, for I believe you are correct. I leave it to you. I cannot do anything in the matter now. I suppose that Focke would be of the same opinion, and call the plant *Borreri*.—Yours truly, CHARLES C. BABINGTON (*per* A. M. B.).

To ALFRED FRYER, Esq.

CAMBRIDGE, *Dec.* 5, 1893.

Dear Mr. Fryer,—I am very sorry to say that I have mislaid your letter, but can answer the question in it about *Potamogeton longifolius*. I believe that the specimen in the Edinburgh Herbarium is *not* correctly named. I quite think that I told them so many years since. Only two specimens were obtained, *not by me*, but by Mr. J. Ball. One I have here, the other he kept. Please look at the "E. B. S.," plate 2847, and look at the stipules of the Edinburgh

Herbarium specimen. I think its stipules are *not winged*, as are those of my specimen of *longifolius*. Do not send the specimen back with the statement that I gathered it—for I did not: Ball brought it to me in a fresh state. Could you not come and see my specimen and convince yourself about it? Pray excuse my having to write in this way*—I have no help for it.—Yours very truly, CHARLES C. BABINGTON.

To W. H. BEEBY, Esq.

5, BROOKSIDE, CAMBRIDGE, *Mar.* 29, 1894.

Dear Mr. Beeby,—I am sorry to say that my use of the pen is far from good now. Illness has kept me from the Herbarium for more than two years, and so I hope that you will excuse the note in pencil, as the work of one only slowly recovering from illness. I am not able to write proper labels for your plants, but have made notes upon the back or front of the tickets. I much suspect that we probably do not well in attempting to separate these forms of *Centaurea nigra*, and that they are differences caused by situation, climate, and season. But certainly you may distinguish them when growing, by sight, if not by written characters. I wish I could do more for you, but I have always been puzzled myself. Newbould had a strong opinion of their distinctness. I am very glad to retain the questions. They interest me much. I hope that you will be able to read this, but I can do no better.—Yours very truly, CHARLES C. BABINGTON.

To I. H. BURKILL, Esq.

COTHERSTONE, TEESDALE, *July* 23, 1894.

Dear Burkill,—You had better look into the interleaved volumes of the "Manual," for there you may (?) find a plan of the ground where *Aster salignus* grew. I say grew, for I am far from sure that it is there now. It has never been again gathered there, and it has been looked for unsuccessfully by me and others. I fear that it may have been carefully removed by the farmer as a troublesome weed. If you do not find a plan in the place mentioned, I cannot help you. I brought a root away which is now growing in the south west corner of our kitchen garden, and may now be in flower, but I think hardly yet. You can see to this. I do *not* consider it a native, but how it got into Wicken Fen I know not. We like this place much, and had a very pleasant journey here, and are in very comfortable quarters, and hope to benefit by the change of air and climate. Mrs. Babington joins with me in very kind regards, and I am truly yours, CHARLES C. BABINGTON.

Look also in the interleaved "Flora," and the quarto notes concerning it.

* In pencil.

[The following letters to Professor J. H. Balfour, M.D., have been received since the preceding portion of the Botanical Correspondence was almost all in type. They are added, as it is believed they will be interesting to many readers; and they are followed by two letters written to Professor Elias Fries, Upsala, and one to M. Charles Gay, son of the eminent botanist of that name. With these two exceptions no letters to foreign botanists are included in this volume—Ed.].

St. John's College, Cambridge, *Feb.* 3, 1841.

Dear Balfour,—I send with this in a *pill-box* (fit thing to send to a doctor) a cone from under six feet of solid peat bog, at Burrishoole, near Newport, Mayo, to be presented to the Botanical Society at the next meeting. I obtained several of them through the kindness of the clergyman of Newport, and submitted them to Don's examination, as being the person best acquainted with the genus *Pinus* amongst British botanists. He informs me that they are certainly the cones of *Pinus Mughus* (Jacq.) which, however, he considers as a variety of *P. sylvestris*, but quite different from any of the varieties now native in Scotland. It will be observed by the cone now sent, (which is a fair example of the whole collection), that they are scarcely half the size of those of *P. sylvestris*; the apex of the scales is quadrilateral, and the wing of the seed, although similar in shape to that of *Pinus sylvestris*, is yet only a fifth part of the size. It is interesting to find that a tree which must have formed at least a portion of the native forest of that wild part of Ireland, in which a tree is now scarcely to be found, should be thus proved to belong to a form of *Pinus* not now native in Britain, but confined as I believe to the Austrian Alps. The native forests of that part of Ireland have now been totally destroyed for about 200 years, one clause in the original grants to English settlers having required their destruction, and employment in the smelting of iron. Don states that these cones agree exactly with others that he has seen from the bogs of Armagh. Perhaps you will read any part of the above that you may see fit at the meeting at which the cone is presented. As I suppose that you are now again at work at the Catalogue, I may as well send to you my arrangement of *Mentha*, which I have just finished. I would place them in the following order:

Mentha—1. *rotundifolia* (L.) *β velutina* (Bab.).
2. *sylvestris* (L.).
3. *viridis* (L.).
(?) 4. *crispa* (L.).
5. *pratensis* (Sole) (*gracilis* Sm.).
6. *piperita* (L.) *β sylvestris* (Sole).
7. *aquatica* (L.) *β citrata* (Bab.) (*M. citrata* Sm.).
8. *sativa* (L.) *β rubra* (Benth.), *γ gentilis* (Benth.).
8. *acutifolia* (?) (Bab.) (*M. acutifolia* Sm.).
9. *arvensis* (L.) *β agrestis* (Benth.).
10. *Pulegium* (L.).

M. rotundifolia β *velutina* is from "Arran, Rev. T. B. Bell." Edin. Bot. Soc. specimen, named I think *hirsuta*; it is the *M. velutina* (Lej.), published in Reichenbach's "Fl. exsiccata" No. 1235. *M. crispa* I cannot refer satisfactorily to either of the species, but do not consider it as more than a monstrous form of some one of them. I do not think any other varieties are worth introducing into the list. Look in your Edinburgh Herbaria for an *Alchemilla alpina* with the leaves only divided half way down, and the whole plant larger than the true *alpina*. I have seen a specimen from the late G. Don (from the Clova mountains I think) and it remains constant in cultivation in Mr. Borrer's garden. Don called it *argentea*, but that name has long since been used by Lamarck, and so I call it *conjuncta*. Have you got *Pinguicula Longicornis* (Gay) in the list? I am much obliged by your promptitude in looking out the plants for me from Vogel's collection. With kind remembrances to all the long list of my Edinburgh friends.—Believe me, yours most truly, CHARLES C. BABINGTON.

KILLARNEY, *July* 21, 1841.

Dear Balfour,—Your letter reached me this evening on my return from Brandon Mountain and its neighbourhood. I am very sorry that you start so early, as I shall find it difficult to join you by that time, and certainly cannot do so without neglecting some of the things that I wished to have done in this county . . . I think that the most part of the time ought to be employed in Harris and Lewis, as Skye is of easy access . . . Certainly *nothing* but the *Outer* Hebrides would tempt me to leave Ireland at present, and I shall be greatly disappointed if anything should cause the plan to be changed . . . . .—Believe me, yours most truly, CHARLES C. BABINGTON.

EDINBURGH, *Sept.* 3, 1844.

Dear Balfour,—As I am now settled here for some time, I write to tell you of my locality, and shall be glad to receive a few lines from you . . . . I have set to work at the arrangement of the European plants, and hope to get through them before it is time to leave Edinburgh, as I am to have the *second* set of specimens, the Society of course taking the first. This will be fine pickings for me. You should come and do the same with the extra-European plants, about which I have little care . . . . Let me know if you can arrange a day or two to be spent in Teesdale; do not, however, expect to get much there, as all the plants will be over by the time at which we can go to look for them. . . . I do not think that there is anything more to tell you, but will write again should anything occur to me, and have only now to express to you in conclusion, and although last not least, my cordial thanks for your kind hospitality to me at Glasgow, and to assure you that I am, ever sincerely yours, CHARLES C. BABINGTON.

What sort of class have you got, and how do you get on at Liverpool? One *hard* day's work would shew you most of the Teesdale plants. Say that we meet at Barnard Castle on Monday forenoon, the 23rd inst., and get up the valley that evening, spend Tuesday there, and get to York on the Wednesday. I throw this out as a hint for you to consider.

St. John's College, Cambridge, *March* 11, 1845.

Dear Balfour,—You will probably have received a letter from our Vice-Chancellor concerning a new Curator for our Garden here. . . . . The place for the new Garden is at present only a bare field, and the new Curator will have to work out the details of a rough plan by himself, as Henslow is non-resident. We therefore want a good practical man, who has a considerable acquaintance with science. It seems to me to be a fine opening for a young and active man, where he may distinguish himself and obtain reputation. . . . . I have been very much occupied of late with "Ray's Letters and Itineraries" for the Ray Society, determining the modern names of the plants. . . . .—Believe me, yours very truly, Charles C. Babington.

St. John's College, Cambridge, *July* 5, 1845.

Dear Balfour,—You have set me rather a troublesome job, but I have done my best to name the specimens. Do not however commit me to the names now given, as it is difficult to determine from *crushed* specimens and *young* shoots. . . . . I find that Borrer declines Clova, and so I think that I shall not go north this year. I propose joining Lingwood in Pembrokeshire next month for a few weeks. It is a district but little known botanically, and so I may perhaps do some good work there at small pecuniary outlay,—for you must know that I am rather poor this year, and want to save for Norway next season. Be sure that you make arrangements so that you may be able to start *very* early for Norway next year, that we may have the whole season before us. I should like to get very far north when we are about it. An intimate friend of mine, who is a good naturalist, and most gentlemanly person, named Wollaston (Secretary to the Nat. Hist. Section, at the late Meeting at which we greatly missed you), wishes to go, and I have said that I have no doubt that he can join us. He will be an acquisition to a *small select* party such as ours must be. I enclose one of our Association tickets for you to see. The building you may remember is the new Fitzwilliam Museum. The Meeting* has gone off beautifully altogether, nothwithstanding a squabble between Sedgwick and ——, in which of course the former was in the right.—Yours truly, Charles C. Babington.

* British Association.

St. John's College, Cambridge, *March* 1, 1848.

Dear Balfour,—I think that your plant from Duddingstone Loch is *Anacharis Alsinastrum*, but am fearful of saying definitely what it is, as *A. Nuttallii* is so greatly like it. Have you a dried specimen to send? Is there much of it, and no probable chance of its having been placed there? Have not exotics been sown there formerly? . . . . *March* 18. Your account of the locality of the *Anacharis* is satisfactory. I have very little doubt of its identity with *A. Alsinastrum*, and shall be glad to receive a packet of it (in a tin) this spring. Dr. Johnston has just reminded me of his having sent a plant to me for examination (and return), which I could not determine, and which now he and I believe to have been *A. Alsinastrum*. It was found in Berwickshire, I believe. I have written to him again concerning it. I am glad that you have sent some botanical papers to Taylor. You should write some yourself. I think that Henfrey's reports are a valuable acquisition to the "A. N. H." I think that I have made out the probable presence of another *Rumex* in Britain, allied to *R. palustris* (Sm.), which is the *R. Steinii* of Koch, I mean the *R. palustris* of Koch. See what you have, and more especially look to the base of the root leaves. I shall perhaps send a paper upon this matter to the Society during the spring. I shall also have a Supplement, No. 2, to the *Rubi*.—Yours very truly, Charles C. Babington.

Copy of the translation of letters written originally in Latin to Elias Fries, *Professor of Botany in the University of Upsala, Sweden.*

Dear Sir,—After much delay I have had the high honour and great satisfaction of receiving your letter from Upsala, October, 1842, and take the earliest opportunity that my engagements allow, to reply to it. I have the satisfaction of stating that I have just forwarded to the care of Mr. Sonder, of Hamburgh (who kindly undertakes to forward them safely), a few specimens for your Herbarium, amongst which the *G. Borreri* will be found. I am grieved that it is not in my power to send a greater number of the plants for which you have more particularly applied, but trust to be able to do so on some future occasion. It gives me great pleasure to learn that it is your intention to publish a "Flora of Scandinavia," as it is a work which is much required, and will be the more valuable as coming from your hand. As you have so liberally offered to send me some of the rarer and more interesting plants of Scandinavia, I have added a list of some of those which I more particularly desire to possess. . . . I have now only to add that it will always give me gratification to supply you with any specimens and information that may be in my power, and to request that you will accept this letter as a mark of the high esteem and respect with which I regard you.

March 10, 1847.

Dear Sir,—I have to acknowledge the receipt of your letter dated January 10, 1847, and in the first place must express to you the high estimation in which I hold the very complimentary manner in which you are there pleased to speak of my services to Botany, especially to the Botany of Britain. It grieves me that the collections which I have sent to you have not consisted of such specimens as are valuable to you. It is my misfortune, not fault, that such is the case. I sent the best which I had, and shall do so again when opportunity offers. Amongst those formerly sent were several of our *plantae criticae*, in addition to the *Hieracium Lapeyrousii* (?), which you mention as the only valuable specimen. I have suffered a very heavy loss in not receiving the fasc. IV. V. VIII. and X. of the "Herb. Norm.," as they contain specimens of very many plants, which it has given me great trouble to determine without them; indeed, in numerous cases, I am obliged to remain in doubt. Your very kind offer of the missing fasciculi is therefore most acceptable to me. . . . I have just concluded the preparation of a small parcel of specimens for you, which will be sent, with parcels from Dr. Boott and Mr. Borrer, to the Swedish Consul in London in a few days.—Believe me to be, with the greatest respect, most obediently yours, CHARLES C. BABINGTON.

Copy of letter to Mons. CHARLES GAY, *on the death of his father, the distinguished Botanist* JACQUES ETIENNE GAY, *Jan.* 16, 1864.

CAMBRIDGE (*undated*).

Sir,—I venture to address you in my native language because I have reason to believe that it is not unknown to you. The intimation of the death of your justly lamented father has caused very much grief to me. I have long known and esteemed him as one of the most eminent botanists in Europe, and should from that cause alone have very much deplored his death, but you well know that within the last two years I have also obtained a personal acquaintance with him; an acquaintance, alas, so soon brought to a conclusion. My personal intercourse with your father changed my estimation of him from that of a valued scientific correspondent into a sincere personal admiration, and, I may venture to add, an affectionate veneration. A more excellent, kind-hearted, and truly venerable man it has never been my happiness to know, and you will therefore fully understand how very much I lament his decease. The loss to his family is of course much greater than I can attempt to estimate. I hope that it will please the Almighty Disposer of events to enable you to bear the inestimable loss with resignation, and preserve you to hold up his example as a pattern to be followed by yourself and family. I shall carefully keep his letters, and especially the photographic portrait which he kindly gave me, as a means of continually retaining him fully in my memory.—With sincere respect, I remain, yours very truly, CHARLES C. BABINGTON.

NOTES ON CORRESPONDENCE.

Memoirs of some of Babington's botanical friends may be seen in *D.N.B.* and in Boase *M.E.B.* A work of great value, which might serve as a model to a historian of scholarship, is: *A Biographical Index of British and Irish Botany*, Compiled by James Britten, F.L.S., and G. S. Boulter, F.L.S., F.G.S. London, West, Newman and Co. 1893. 8vo.

See *Journal of Botany* (and in Vols. I.—III. *Annals of Botany*) for obituaries year by year. Thus of those named in the *Notes on Journal*, Vol. 27 of the *J.B.* (1889) commemorates M. J. Berkeley (p. 305) and John Ball (p. 365); Vol. 31 (1893) Leonard Blomefield, sometime Jenyns (p. 320).

P. 302. *Oken's book.* Babington's sober judgement shews to great advantage here. With firm hand he steers between the Scylla of blind faith in Lankester and the Charybdis of gloomy doubt in Balfour. To the one, the new oracle reveals pure truth, 'nothing wrong' in thousands of utterances; to the other, it is a voice of 'blasphemy.' "I think I have some idea of his argument. Many expressions in it are so worded as to lead to a bad interpretation of them, but in my opinion none such is intended by the author. . . . . I think that very few of the members will read many pages of it. Many doubts were expressed at Council meetings as to its being an advisable publication. I was, and am, one of the doubters. . . . . I am sorry that you have withdrawn from the Council and local secretaryship. It will, however, be a good warning to the London members of the Council to mind what they are about in future." *Not guilty, but don't do it again.* One who, like Psalms 19 and 119, viewed God's works and word, not through dim glasses, High Priests of 'Science' or of Tradition, but with direct vision, was little troubled by jarring sects 'scientific' or theological.

What is it? a learned man
Could give it a clumsy name.
Let him name it who can,
The beauty would be the same.

Sir Richard Owen's article 'Oken' in the *Encycl. Brit.* casts no light on Balfour's view. More helpful is Mansel's learned and witty Phrontisterion:

Where reared by Oken's plastic hands
The Eternal Nothing of Nature stands,
And Theology sits on her throne of pride
As Arithmetic personified;
And the hodmandod crawls, in its shell confined,
A symbol exalted of slumbering mind.

See Erdmann, *Geschichte der neueren Philosophie*, III. 2, 539—583.

Forty years after the stir in the Ray Society, Arnold Lang writes (*allgem. deutsche Biographie*, XXIV. 1887, 216—226):

P. 220. "In philosophy 'Nothing' was to Oken the highest principle, the Absolute. . . . . The multiplicity of things arose from the working of Water, Air, and Ether or Fire, upon Earth. Therefore there are, and can be, only three Kingdoms of Nature." Earth + Water, or Earth + Air, or Earth + Fire = Minerals. Earth + Water + Air = Plants. Earth + Water + Air + Ether = Animals.

P. 225. "The special parts of Oken's Natural History contain little or no new materials, and few new thoughts; they are however clearly expressed, and present a diligent summary of the observations made up to date. . . . . To the wildness of his physical speculations is largely due the miscredit into which general contemplations fell. Hence, until the 'fifties, botanists and zoologists confined themselves almost exclusively to so-called exact researches of detail."

Cosmogonies and Anthropogonies have been much in fashion during this century. See the *Real-Encykl. für prot. Theologie* under *Schöpfung*, where the resemblance of some of these guesses to Indian and Greek legends is pointed out. A hundred years hence they may supply matter for an introduction to Ovid's Metamorphoses.

J. E. B. M.

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Titles of most of Professor Babington's separate works may be found in the British Museum Catalogue. All are given above, pp. xxi—xxiii. For two Memoirs in the *Eagle*, see p. xxx, n. 4; for the (unpublished) Addresses to the Ray Club, p. xxxi, n. 8; for Articles in the *Archaeologia Cambrensis*, p. xc; for his principal work, the *Manual*, pp. xxii, xxxii, n. 20, lxviii—lxxii, lxxix.

He was early fascinated by brambles, *Primitiae Florae Sarnicae* 32:

> It is only by a careful and long continued study of the living plants that we can ever hope to obtain a knowledge of the limits of the species in this most difficult genus, in which we do not yet appear to be acquainted with a single permanent distinctive character.

See above, pp. lxxiv, lxxv, lxxviii—lxxxviii. The new edition of *The British Rubi*, half-promised in p. xxii, will not appear. Mrs. Babington and Mr. Moyle Rogers both shrink from sending it forth under Professor Babington's name without the final touches of the master's hand. On the outside (blue) cover of the MS. is written: "Partially done, not quite finished." On the inner (white) cover: "Revised, nearly ready for press"; (later) "but must be looked over again, and sections attempted."

Material for a survey of his services to Natural Science in the University may be found in the Registry and in the *University Reporter*.

The following list of scientific papers is reprinted from the catalogue published by the Royal Society (above, p. xxiii):

1. Additions to the List of British Insects. Mag. Nat. Hist. v. 1832, pp. 327—330.
2. On the distinctions between the Linnaean Genera Potentilla and Tormentilla. Mag. Nat. Hist. vi. 1833, pp. 248—252.
3. Catalogue of Insects found at Berwick-upon-Tweed in August, 1834. Berwicks. Nat. Club—Hist. 1834, pp. 81—82.
4. An account of some additions to the Flora of Berwickshire. Berwicks. Nat. Club—Hist. 1834, pp. 176—178.
5. On the supposed generic distinction of Ranunculus ficaria of Linné. Mag. Nat. Hist. vii. 1834, pp. 375—378.
6. Malachius bipunctatus (*Bab.*), is not M. ruficollis (*Panzer.*). Mag. Nat. Hist. vii. 1834, p. 378.
7. Observations on certain species of the genus Dromius. Entomol. Soc. Trans. i. 1836, pp. 80—88.
8. Observations on Haliplus ferrugineus of authors: Being an attempt at its sub-division into several species. Entomol. Soc. Trans. i. 1836, pp. 175—178.

9. Observations made during a visit to Connemara and Joyce's Country, Ireland, in August, 1835. Mag. Nat. Hist. IX. 1836, pp. 119—130.
10. Localities of several species of British Plants observed during the summer of 1835. Mag. Nat. Hist. IX. 1836, pp. 243—246.
11. Note on Malachius ruficollis (*Pz.*) and M. bipunctatus (*Bab.*). Entomol. Mag. IV. 1837, p. 365.
12. Note on Macroplea zosterae. Entomol. Mag. IV. 1837, p. 438.
13. Botanical Notes. Jardine, Mag. Zool. and Bot. I. 1837, pp. 136—141.
14. On several new or imperfectly understood British and European Plants [1835]. Linn. Soc. Trans. XVII. 1837, pp. 451—464.
15. On a new English species of Urtica. Ann. Nat. Hist. I. 1838, pp. 195—198.
16. On Habenaria bifolia and chlorantha. Ann. Nat. Hist. I. 1838, pp. 274—276.
17. On the Botany of Erris, County Mayo, and a notice of several additions to the Flora Hibernica. Jardine, Mag. Zool. and Bot. II. 1838, pp. 119—124.
18. On the British species of the genus Cerastium: Being an attempt to elucidate their distinctive characters. Jardine, Mag. Zool. and Bot. II. 1838, pp. 196—204.
19. The British Cerastia: a Supplement to a former Essay. Jardine, Mag. Zool. and Bot. II. 1838, pp. 317—319.
20. A notice, with the results, of a Botanical Expedition to Guernsey and Jersey in July and August, 1837. Jardine, Mag. Zool. and Bot. II. 1838, pp. 397—399.
21. On the British Species of Lotus. Ann. Nat. Hist. II. 1839, pp. 260—266.
22. On the Botany of the Channel Islands. Ann. Nat. Hist. II. 1839, pp. 348—350.
23. On Ranunculus aquatilis of SMITH. Ann. Nat. Hist. III. 1839, pp. 225—230.
24. On the Arctium lappa and bardana of Sir J. E. SMITH. Ann. Nat. Hist. IV. 1839, pp. 253—255.
25. On Allium porrum and A. ampeloprasum. Ann. Nat. Hist. IV. 1839, pp. 289—291.
26. On Ulex. Ann. Nat. Hist. V. 1840, pp. 300—304.
27. On the Teucrium regium of SCHREBER. Ann. Nat. Hist. V. 1840, pp. 375—377.
28. On the Flax-Dodder. Agric. Soc. Journ. II. 1841, pp. 63—64.
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122. On the papyrus of the Lake of Gennesaret. Phil. Mag. XXXI. 1866, pp. 315—316; Cambridge Phil. Soc. Proc. I. 1866—67, pp. 8—9.
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124. Propagation of Rubi. Seemann, Journ. Bot. V. 1867, p. 377.
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129. On Ranunculus tripartitus (*De Cand.*). Journ. of Bot. VII. 1878, pp. 38—39.
130. Notes on Rubi. Journ. of Bot. VII. 1878, pp. 85—87, 114—117, 142—145, 175—178, 207—209.
131. On Potamogeton lanceolatus (*Smith*). Journ. of Bot. X. 1881, pp. 9—11.
132. On Senecio spathulaefolius (*De Cand.*), as a British plant. Journ. of Bot. XI. 1882, pp. 33—36.

By Charles Cardale Babington *and* J. H. Balfour.

1. Account of a Botanical excursion to Skye and the Outer Hebrides, during the month of August, 1841. Edinb. Bot. Soc. Trans. I. 1844, pp. 133—144.
2. A Catalogue of the Plants gathered in the islands of North Uist, Harris and Lewis, during a Botanical excursion in the month of August, 1841. Edinb. Bot. Soc. Trans. I. 1844, pp. 145—154.

The following list of contributions to the Cambridge Antiquarian Society is extracted from the forthcoming index, by Mr. G. J. Gray, of the firm of Macmillan and Bowes. (C. denotes Communications; R. Report):

1. On a small earthern vessel found on the site of the Roman Villa at Comberton. R. IX. 7.
2. On a cast medallion found at Burwell. R. IX. 7.
3. Sketch of a Saracenic Arch at Garway, Herefordshire. R. X. 6.
4. On sculptures in Rollestone Church, Herefordshire. R. X. 6.
5. British and Roman roads in Cambridgeshire. R. X. 9.
6. Remarks on some seals of Edward III. R. XI. 7.
7. Catalogue of tradesmen's tokens known to have been issued in the county of Cambridge during the latter part of 17th century. 1851. C. I. 15.
8. On some Roman pottery found near Foxton, Cambs. 1 plate. 1852. C. I. 43.
9. Four ancient ditches in the southern part of the county. R. XII. 8.
10. On some Antiquities found in Corpus Christi College; one plate of Elizabethan shoe and clog, and Facsimile of Title-page in Text. 1852. C. I. 51.
11. Ancient Cambridgeshire; or, an attempt to trace Roman and other ancient roads that passed through the county of Cambridge, with a record of the places where Roman coins and other remains have been found. 4 plates and 1 map. 1853. 8vo. Pub. III.

    Ditto. Second Edition, enlarged. 1 map. 1883. 8vo. Pub. XX.
12. On the Roman Causeway found in Bridge Street. 1822. R. XIII. 7.
13. Measurements of the Camps at King's Hedges and Arbury. R. XIII. 7.
14. On Roman Inscriptions on the Huntingdon Road. R. XIII. 7.
15. On the Foss or Devil's Ditch, near Brandon; and that near Swaffham, Norfolk. 1854. C. I. 95.
16. Account of the Excavations of tumuli made by the Rev. J. J. Smith, near Bincombe, Dorsetshire, 1842; derived from his notes in the possession of the Society. 1 plate. 1854. C. I. 141.
17. Supplement to his paper on the Fen Way. 1855. R. XV. 10.
18. Imitations of ancient flint arrow-heads and stone hammers. 1857. R. XVII. 10.
19. Impression from a seal for labourer's passes for the hundred of North Stowe. 1857. R. XVII. 10.
20. Imitations of Roman pottery. 1857. R. XVIII. 7.
21. On West Mere, at Wretham, near Thetford, Norfolk. 1858. C. I. 339, R. XVIII. 8.

22. On a bronze falx found in the Fens. 1859. Illustr., p. 362. C. I. 361.
23. On Anglo-Saxon remains found near Barrington. 1860. 1 plate (fibulae). C. II. 7. R. XX. 8.
24. Roman interments between Gravel Hill Farm and Howe's House. 1861. R. XXI. 8.
25. On a pair of stones, forming a grain-rubber, from Anglesey Abbey. 1861. R. XXI. 8.
26. Remarks on flint implements from the drift near Amiens. 1861. R. XXII. 6.
27. On a flint hammer found near Burwell. 1862. C. II. 201.
28. Map of Cambridgeshire, by E. Bowen, *circa* 1750. 1862. R. XXII. 8.
29. On a skull of Bos Primigenius, associated with flint implements. 1863. 1 plate. C. II. 285.
30. On flint "cores" or masses from which flint flakes have been struck. 1863. R. XXIII. 8.
31. On Roman interments by the side of the so-called Via Devana, near Cambridge. 1863. 1 plate, (2 glass bottles found on Gravel Hill Farm), and illustration on p. 291. C. II. 289.
32. Imitation of a leaden Pilgrim's badge, recently made. 1863. R. XXIV. 7.
33. On remains of the Hospital of St. John the Evangelist in Cambridge. 1864. 4 plates (Hospital, Arch and Piscina, Piscina, plan and part of St. John's). C. II. 351.
34. Two resinous seals. 17th century. 1866. R. XXVI. 9.
35. On the Musea or Studiola in Dr. Legge's building. Caius College, 1868. (Plan at p. 179). C. III. 177.
36. Roman jar from Burwell Fen. 1868. R. XXXIII. 15.
37. A small brass figure of an ecclesiastic, found in Conington Church. 1870. R. XXXIII. 20.
38. On the discovery of a Roman Villa at Hauxton. 1871. R. XXXIII. 25.
39. Illustrations of old buildings of St. John's College. 1873. R. XXXIV. 37.
40. A bronze celt from Bottisham Lode. 1874. R. XXXVI. 10.
41. A flint axe and bronze spur from Bottisham Lode. 1874. R. XXXVI. 13.
42. A paleolithic flint axe found at Cromer. 1876. R. XXXVI. 21.
43. Sketch of east window of the Chapel of St. John's College. 1876. R. XXXVI. 21.
44. On an ancient cemetery in the grounds of G. S. Gibson, Esq., of Saffron Walden. 1876. R. XXXVI. 24.
45. On "hoisting," by an earthquake. 1876. R. XXXVI. 10.
46. Remarks on Wat's and Offa's Dykes. 1880. R. XLI. xiv
47. On Roman remains exhibited by Mr. Pigot. 1880. R. XLI. xvi
48. Remarks on Roman remains at Girton and Rougham. 1881. R. XLI. xxii
49. Remarks on the rings of annual growth of trees. 1881. R. XLI. xl
50. Remarks on Dr. Bruce's paper on Hadrian's Wall. 1882. R. XLII. xliii
51. Remarks on the death of the Rev. S. S. Lewis. 1891. Pr. VII. 287.
52. Babington, C. C. *and* J. J. Smith. Foundations of buildings at Ickleton and Chesterford. 1848. R. IX. 6.

INDEX I.

(JOURNAL AND CORRESPONDENCE.)

[In the course of time the names applied to various plants or insects have been changed; the following index by means of its cross-references will be found to be a guide to these changes. As far as possible in the case of plants the names adopted are those of the eighth edition of the late Professor's *Manual of British Botany*. Italics denote a synonym, while the names of sub-species are enclosed in brackets.]

ABERDEEN Cathedral, 115.
Acanthus mollis, 239.
Acer Pseudo-platanus, 81.
Aceras anthropophora, 16, 178, 185.
Achillea tanacetifolia, 229.
Aconitum Napellus, 61, 89.
Acorus Calamus, 181, 253.
Actaea spicata, 119.
Actinocarpus, see Alisma.
Adiantum Capillus-Veneris, 45, 55, 81.
Adoxa Moschatellina, 20.
Aepus fulvescens, 25, 26.
Agabus, see Colymbetes.
Agrimonia Eupatoria, 182; odorata, 165, 179, 182, 183, 184, 201.
Agrostis setacea, 379; vulgaris (pumila), 39.
Aira *aquatica*, 126; caespitosa, 286, 287, (as alpina) 106, 286, 287; *canescens*, 64.
Ajuga Chamaepitys, 151; pyramidalis, 106; repens, 38.
Alchemilla alpina, 104, 106, 119, 212; conjuncta, 119, 323, 324, 363, 442; vulgaris, 6.
Alder, 52.
Alisma *Damasonium*, 39; natans, 13, 141.
Allium ambiguum, 89; Ampeloprasum, 72, 74; Babingtonii, 46, 186, 239, 341, 342; carinatum, 57, 298; oleraceum, 57, 119, 298; Schoenoprasum (sibiricum), 80, 82; Scordoprasum, 118, (arenarium), 27, 297, 298; sphaerocephalum, 64, 65, 66; ursinum, 38, 61; vineale, 298.
Allosorus crispus, 212.
Alnus, see Alder.
Alopecurus alpinus, 115, 289; bulbosus, 39, 139; fulvus, 117.
Alsine, see Arenaria; media, 148; tenuifolia, 144, 153.
Althaea officinalis, 57, 90, 171.
Alyssum calycinum, 50, 63, 177, 328.
Anacharis Alsinastrum, 155, 156, 304, 305, 444, (*Nuttallii*) 303, 304, see *Udora*.
Anagallis tenella, 15, 52, 221.
Andromeda polifolia, 245.
Anemone nemorosa, 37, 38, see Wood Anemone; Pulsatilla, 20, 60, 71, 79, 88, 99, 143, 172, 188, 196, 199, 201, 204, 215, 222, 234, 244, 247.
Anguis torquatus, 27.
Anstruther (antiquities), 246, 247.
Antennaria, see Gnaphalium; margaritacea, 190.
Anthemis arvensis, 155.
Anthriscus Cerefolium, 89.
Anthyllis Vulneraria, 53.
Apargia autumnalis, 104.
Apera interrupta, 144, 163, 193, 201, 332; Spica-venti, 144.
Aphanisticus pusillus, 49.
Apium, see *Helosciadium*; graveolens, 90.
Aquilegia vulgaris, 30, 189.
Arabis ciliata, 45, 55, 56; perfoliata, see *Turritis*; petraea, 10, 42, 104.
Araucaria, large cone of, 33; imbricata, 46.
Arberlow, 227.
Arbutus *alpinus*, 115; Unedo, 45, 46; *Uva-ursi*, 108, 251.
ARCHAEOLOGIZING — Anglesea, 146; Applegarth, 77; Belfast, 164; Bridgewater, 154; Bristol, 184; Caerleon, 180; Cheddar, 79; Dursley, 175; Elgin, 214; Glamorgan, 210; Henfield, 41; Hereford, 152; Lake District, 243; Montgomery, 228; Pembroke, 146, 160, 221, 238; Silchester, 154; Sligo, 94; Snowdonia, 187, 225; Suffolk, 48, 92, 224; West Riding, 228, 233.
Archangelica officinalis, 133.
Arctium intermedium, 202, 322, 323, 397, (*pubens*) 179; *Lappa* (Aggr.), 84, 281, 322, 323; majus, 120, 174, 322, 323, (*Bardana*) 281, 322, 323, (*tomentosum*) 174, 196, 322, 323, 397; minus, 322, 323, 378; nemorosum, 378.

Arctostaphylos, see *Arbutus*; Uva-ursi, 420.
Arenaria ciliata, 94; leptoclados, 335, 336; *marina*, 347; *peploides*, 53; *rubella*, 125; serpyllifolia, 335; *tenuifolia*, 49, 62, 167; Trinervia, 63; *verna*, 10, 11, 242.
Aristolochia Clematitis, 140, 195, 208.
Armeria maritima, 45, 134, (duriuscula) 411, (pubescens) 411, (sibirica) 411; plantaginea, see Statice.
Arnoseris pusilla, 199.
Arrhenatherum elatius, 14.
Arrington Church, 258.
Artemisia campestris, 62, 68, 147.
Arthrolobium ebracteatum, 67, 68, 73, 74, 276, 375.
Arum italicum, 330, 345; maculatum, 345.
Arundo arenaria, 45; *Calamagrostis*, 158; *stricta*, 165.
Asparagus officinalis, 159, 160, 400.
Aspidium aculeatum, 164, (*lobatum*) 164; *angulare*, 50; *cristatum*, 44; *dilatatum*, 52, (*dumetorum*) 50; *Lonchitis*, 12, 142; *spinulosum*, 171; *Thelypteris*, 50.
Asplenium Adiantum-nigrum, 177; germanicum (*alternifolium*), 205; lanceolatum, 65; marinum, 26, 66; septentrionale, 13, 205; viride, 10, 11, 30, 251.
Aster salignus, 209, 440; Tripolium, 45, 171.
Aston Church, 183.
Astragalus alpinus, 114, 115, 289; Hypoglottis, 88, 197.
Astrantia major, 357.
Athenaeum Club, 172.
Athyrium Filix-femina, 52, 54, 83, 172, 281.
Atopa cervina, 10.
Atriplex, 66, 67; Babingtonii, 347, 436, (*crassifolia*) 301, (*rosea*) 67, 76, 301; deltoïdea, 150, 170, 301, (*stricta*) 76; erecta, 67, 164, 170; farinosa, 378, (*arenaria*) 378; hastata, 347, (microsperma) 64; litoralis, 73, 151, 378; *pedunculata*, 55.
Atropa Belladonna, 57, 77, 83.
Azalea procumbens, 115, 251, 253, 257, 420.

Balfour's Manual, 309; class book, 319.
Ballota ruderalis, 90, 184, 250.
Balsar's hill (camp), 143.
Barbarea intermedia, 350; stricta, 112, 147, 279, 280, 287; vulgaris, 280.
Barkhausia taraxacifolia, 124.
Barton Bendish Church, 168.
Bartsia viscosa, 283.
Batrachium, 173, see Ranunculus.
Beaumaris Church, 5.
Bee orchis, 61.
Bell, Miss, 284.
Berkeley, M. J., 265; mem. in *Journ. of Bot.* xxvii (1889) 305-8; cf. xiv (1876) 160.
Betula, see Birch; glutinosa, 134; intermedia, 134, 370, 424.
Bidessus, see Hydroporus.
Birch, 52.
Bird, C. J., 268.
Blarney Stone, 101.
Blechnum boreale, 52.
Blomefield, L., see Jenyns, L.
Blysmus compressus, 89, 200; rufus, 43, 106.
Bog deal, 54.
Bolton Castle, 228.
Borrer, W., 276.
Botanic Garden, Bury, 34.
Botanic Garden, Cambridge, 123, 138, 188, 189, 234, 306, 363, 396.
Botanic Garden, Colchester, 17.
Botanic Garden, Glasgow, 28.
Botanical Congress (Gratz), 291.
Botanical Gazette (Henfrey's), 306, 312, 317, 320.
Botanizing—Aberdeen, 115; Anglesey, 5, 42, 199, 230; Applegarth, 77; Argyle, 116, 126, 128; Arran, 156; Bala, 14; Bath, 19, 22, 37, 57, 77, 87, 98, 99, 148, 152, 169, 172; Belfast, 164; Berwick, 26, 31, 76, 130, 156, 248; Birr, 43; Braemar, 115, 248, 251, 253, 256, 257; Bristol, 57, 79, 185, 205; Bury, 47; Cambridge, 16, etc.; Cantire, 126; Channel Islands, 64, 71; Charnwood Forest, 50, 63; Chepstow, 32, 124; Clova, 114; Clydesdale, 30; Cornwall, 80, 207, 239; County Cork, 120; Colchester, 16; Denver, 167, 173; Devon, 82, 155, 207, 241, 255; Dingwall, 115; Dolgelly, 14; Dublin, 43, 50, 205; Dursley, 175; Elgin, 214; Edinburgh 76, 114, 127, 130; Galway, 44, 54, 186; Glamorgan, 210; Guildford, 117; Hampshire, 234; Hebrides, 104; Hereford, 84, 171, 183; Hertford, 171; Hunstanton, 200, 201, 202, 209, 220; Iceland, 132; Inverness, 108, 129; Ipswich, 112, 223; Isle of Wight, 4; Kent, 124, 215; Killarney, 4, 101, 121, 191, 218; Lake District, 119, 212, 242; Lincoln, 155, 241; Liverpool, 68; Llandudno, 50; Llangollen, 41; London, 64; Lowestoft, 175; Manchester, 118; Mayo, 52, 92; Monmouth, 190; Montgomery, 182;

Botanizing—*continued.*
Needwood Forest, 15, 41; Newcastle, 24, 76; Norfolk (North), 20, 220, (South) 144, 147, 158, 164, 166; Oban, 95; Oxford, 139, 195; Perthshire, 125, 156, 240; Ross-shire, 108; Shrewsbury, 15, 23, 47, 118, 141, 201; Sligo, 94; Somerset, 22, 148, 154; Snowdonia, 9, 42, 141, 179, 187, 199, 202; Southampton, 58; Southend, 40; Suffolk, 61, 89, 118, 153, 159, 196; Sussex, 39, 40, 58, 78, 131; Swansea, 83; Teesdale, 24, 113, 120; Tenby, 145, 159; Wicklow, 50; Wisbech, 171; Woodbridge, 41; Yarmouth, 139; York, 112; Yorkshire, (East) 209, (North) 198, 236, (West) 118, 226.
Botany for Schools, 197, 352, 353, 354, 358, 360, 364, 365, 366.
Botrychium Lunaria, 16, 51, 113, 234.
Bowstead, J., 264.
Brachypodium pinnatum, 23; sylvaticum, 65.
Bradford (Bath) Church, 189.
Bran ditch, 163.
Brassica, monensis, 68, 281, (Cheiranthus), 73, 276; *orientalis*, 286.
Brent ditch, 157.
Brychius, see Haliplus.
Bristol (Roman roads), 184, 185.
British Association, 17, 192, 198, 292, 308, 443.
Briza minor, 64.
Blomefield, L., see Jenyns.
Bromby, J. E. and C. H., 264.
Bromus *arvensis*, 151; *commutatus*, 124; madritensis (diandrus), 79, 280, (rigidus), 280, (*rubens*), 280; maximus, 65; *racemosus*, 63; *secalinus* 64.
Broome, C. E., 269; mem. in *Journ. of Bot.* xxv (1887) 148-150.
Brotherhood of Friends of Truth, 86.
Brown, W. 269.
Bufo rubeta, 89, see Natterjack.
Bullock, G., 268.
Bunium Bulbocastanum, 90, 91, 99, 177, 213.
Bupleurum aristatum, 82, (*Odontites*), 65, 71, 73; tenuissimum, 41, 171, 397.

Caer careg-y-tran (fort), 179.
Caer Digol (fort), 182.
Calamagrostis epigejos, 74; lanceolata, see *Arundo*; stricta, 286, 287, 300, see *Arundo* & Deyeuxia; strigosa, 404, 405.
Calamintha officinalis, 403, 404, (ascendens) 403, 404, (Briggsii) 403, 404, (menthifolia) 403, 404; sylvatica, 138, 404.
Callitriche, 257; autumnalis, 7, 42, 56; hamulata (pedunculata), 7, 39, 53, 72, 73, 80, 92, 142; obtusangula, 216, 379; polymorpha, 416, 417; stagnalis, 417, (*platycarpa*), 80, 90, 92, 416, 417; truncata, 253.
Calluna vulgaris, 45, 58, 255.
Caltha radicans, 395, 396.
Cambrian Archaeological Association, 206, 223, 234.
Cambridge, Botanic Garden, 123, 138, 188, 306, 363, 396.
Cambridge, St. Philip's Church, 255.
Cambridgeshire, Ancient, 237.
Cambridgeshire Flora, 168, 195, 331, 336, 337, 342, 344; additions and corrections, 344, 347, 387, 388, 389, 397, 399.
Cambridgeshire Naturalists, 150, 152, 153, 157, 164, 166, 168, 189.
Cambridge, Botany at, 224, 297, 366, 382, see also under Lectures and Herbarium.
Camelina sativa, 53.
Campanula *hederacea*, 11, 13; latifolia, 24, 124, 226; patula, 15.
Carabus clathratus, 54; glabratus, 7.
Caractacus' camp, 8.
Cardamina amara, 63; flexuosa (sylvatica), 347; pratensis, 53.
Cardiapus Matthewsii, 18.
Carduus acaulis, 159, (dubius), 157; arvensis (setosus), 381; crispus, 47, (acanthoïdes), 47, 384; eriophorus, 145; heterophyllus, 104; pratensis, 52; see Cnicus.
Carex ampullacea, 11; aquatilis, 114, 410; arenaria, 20; atrata, 13, 142; binervis, 107; brizoïdes, 124; canescens (*curta*), 23, 114; capillaris, 113; distans, 43, 124; ericetorum, 196, 199, 201, 222, 372; extensa, 52, 107; Gibsoni, 118; Hornschuchiana (speirostachya), 10; incurva, 115; irrigua, 114, 289; limosa, 23; montana, 295; Oederi, 160; ovalis, 54; pallescens, 63, 251; paludosa, 338; paniculata, 89, 160; pauciflora, 104, 114; pendula, 38, 184; pilulifera, 63; praecox, 196; Pseudo-cyperus, 15, 89; pulla, 125, (*saxatilis*) 128; punctata, 68; remota, 22; rigida, 10; rupestris, 115, 289; stricta, 38; strigosa, 41, 378; teretiuscula, 23; vesicaria, 13.
Carlina vulgaris, 61.
Carum Bulbocastanum, see *Bunium*; verticillatum, 42, 116.
Cartmell Fell Church, 243; priory, 242.
Cassida rubiginosa, 27; sanguinolenta, 39, 49; vittata (*salicorniae*), 20.

Castell Gwrych, 230.
Castle Rising Church, 150.
Catabrosa aquatica, see Aira.
Catalogue of British plants, 400; Edinburgh, 109, 305, 307, 309, 310, 312, 316, 363; London, 407, 408.
Cavendish Church, 224.
Celts (weapons), 354, 355.
Centaurea aspera (*Isnardi*), 68; calcitrapa, 124, 174; nigra, 440, (*nigrescens*), 57.
Centranthus ruber, 57.
Centunculus minimus, 39, 64, 142.
Cerastium alpinum, 114, 289; arcticum, 409, 414, 425; arvense, 62; latifolium, 10, 12, 132, 409, 410, 425; litigiosum, 332; *mutabile* (Aggr.), 338; obscurum, 332; pumilum, 330, 331, 332; semidecandrum, 61, 330, 331, 332; tetrandrum, 330, 331, 343, (*atrovirens*) 139, 148, 331; trigynum, see Stellaria cerastoïdes; triviale (*longirostre*), 411.
Cerasus Avium, 37.
Ceratophyllum demersum, 149, 151.
Chara, 257; baltica, 390, 394, 395; Braunii, 399; connivens, 389; contraria, 396; crinita, 385; foetida, 385; fragifera, 381, 385; fragilis, 255, (*pulchella*) 39, 41, 42; gracilis, 42; hispida, 43, 390; intricata (*polysperma*), 148, 153; polyacantha, 385; *prolifera*, 321, 404; *syncarpa*, 148, 153, 379; *tenuissima*, 155, (*hyalina*) 17, 49; tomentosa, 394; *translucens*, 394.
Charaeas graminis, 27.
Chelidonium majus (laciniatum), 284.
Chenopodium Bonus-Henricus, 143; botryoïdes, 76; Botrys, 200; ficifolium, 170; *maritimum*, 20.
Cherleria sedoïdes, 125.
Chestnut, large, 168.
Christ Church, Caerleon, 159.
Christy, W., 267.
Chrysanthemum Leucanthemum, 52; segetum, 344.
Chrysocoma Linosyris, 230.
Chrysomela cerealis, 10, 12; graminis, 22; *rufipes*, 39 (*fulvipes*) 49; sanguinolenta, 20, 37.
Chrysosplenium oppositifolium, 255.
Cicendia filiformis, 80, see Exacum.
Cineraria campestris, 99, 170, 230; *spathulifolia*, 233, 389, 403, (*capitatus*) 402, (*pratensis*) 403.
Circaea alpina, 30; lutetiana, 52.
Cirencester Church, 8.
Cladium Mariscus, 38, 45, 158, 213.
Clay, W. K., 270.
Clione cellata, 145.
Cnemidotus, see Haliplus.
Cnicus pratensis, 100.
Coccinella oblongo-guttata, 31.
Cochlearia anglica, 61; danica, 61.
Colchester Castle, 17.
Cold, extreme, 231.
Coleman, W. H., 269; *Journ. of Bot.* i (1863) 318.
Colymbetes femoralis, 38; *maculatus*, 27; *uliginosus*, 37.
Comarum, see Potentilla.
Comyn, H., 268.
Continental Floras, 346.
Convallaria bifolia, 290; *multiflora*, 58.
Convolvulus Soldanella, 50, 67.
Cooper, J. E., 269.
Coriandrum sativum, 40.
Cornus suecica, 115, 130, 253, 415, 420.
Coronopus didymus, 151.
Corrigiola litoralis, 82.
Corylus Avellana, 48, see Hazel.
Corynephorus canescens, 90, see Aira.
Cotoneaster vulgaris, 50, 141, 230, 396.
Couch grass, 362.
Covehithe Church, 256.
Coverack (cromlech), 240.
Cowslip, 66.
Crataegus Oxyacantha, 50, 343.
Crepis biennis, 40; foetida, 144; hieracioïdes (*succisaefolia*), 113, 119; nicaeensis, 389; taraxacifolia, 215, 294, see *Barkhausia*; tectorum, 41, 215; virens, 40, 41, (*pinnatifida*) 41, (*stricta*) 41.
Crithmum maritimum, 42, 161.
Crocus vernus, 61.
Cryptocephalus moraei, 21.
Cryptogramme crispa, 7, 10.
Cuscuta, 69; Epilinum, 92, 95; europaea, 58.
Cwm dwythwch, 225.
Cyclamen europaeum, 61.
Cynodon Dactylon, 81.
Cynosurus echinatus, 64, 73, 282.
Cyperus fuscus, 59; longus, 64, 239, 400.
Cystopteris fragilis, 10, 11; (alpina), 376; (Dickieana), 376; montana, 156.

Dabeocia polifolia, 121, see *Menziesia*.
Dascillus, see *Atopa*.
Datura Stramonium, 90.
Daucus, 80; maritimum, 65.
Deronectes, see Hydroporus.
Devil's Ditch, 177.
Deyeuxia neglecta, 405, see Calamagrostis stricta.
Dianthus caesius, 22, 79; Caryophyllus, 15; deltoïdes, 15, 108; prolifer, 65, 151.
Diervilla, 323.

Digraphis arundinacea, 22.
Dinas Bran castle, 41.
Dinas Dinorwig (fort), 142, 196.
Dinas Pen Maen (fort), 187.
Diotis maritima, 73.
Diplotaxis tenuifolia, 26.
Dock, 133.
Dolawen quarries, 9.
Dolbadarn castle, 6.
Doronicum, 38; Pardalianches, 98.
Dortmanna palustris, 55.
Draba aizoïdes, 83, 281; incana, 13, 113; rupestris, 125, 156; verna, 339, 343, (*praecox*), 340, 343.
Draining of Fens, 163, 169.
Drakeston camp, 175.
Dromius, 19, 21; meridionalis, 34; quadrinotatus, 34; 4-signatus, 35; sigma, 19.
Drosera anglica, 44, 45, 52, 56, 245; intermedia (*longifolia*), 21, 44; rotundifolia, 44, 45, 52, 53.
Dryas octopetala, 51, 132.
Dunfermline Church, 127.
Durmast oak, 23.
Dytiscidae, 70.
Dytiscus ferrugineus, 37.

Eclipse of the Sun, 188.
Echinospermum Lappula, 89, 282.
Echium plantagineum (*violaceum*), 64.
Edinburgh Herbarium, 127.
Editor, Annals of Natural History, 110.
Elatine hexandra, 42.
Eleocharis multicaulis, 317; palustris, 285; *pauciflora*, 44; uniglumis, 285; Watsoni, 316, 317, 356.
Elgin Cathedral, 214.
Elm, large pollard, 32.
Elmis, 26, 27; parallelopipedus, 64.
Elodea, see Anacharis and Udora.
Elymus arenarius, 20, 90; europaeus, 290.
Elyna caricina, 80.
Empetrum nigrum, 52, 107, 255.
Endymion, see Scilla.
Enicocerus, 26, 27.
Entomological Society, Bath, 18.
Entomologizing—Bath, 22; Beaumaris, 7; Berwick, 26, 31; Cambridge, 18, 20, 21, 32, 35, 38; Norwich, 34; Snowdon, 10.
Epilobium alpinum, 408; alsinifolium, 13, 113; anagallidifolium, 408; angustifolium, 6, 26, 151, 176, 284; Lamyi, 324; obscurum, 179, 183, 330, (*virgatum*) 113, 183, 289, 290, 320, 327; palustre, 183, (*ligulatum*), 330; tetragonum, 179, 183, 290, 320.
Epipactis latifolia, 15, 242, 311, 347; media, 119; ovalis, 184, 311, 313; palustris, 50, 195, 213, 221.
Equisetum hiemale, 30, 171; limosum, 49, 407; litorale (*fluviatile*), 407; palustre, 49; pratense (*umbrosum*), 127; trachyodon (Mackaii), 164; variegatum, 69, 243.
Erica ciliaris, 82, 207, 218, 370; cinerea, 45, 52; Mackaiana (*Mackayii*), 46, 55, 120, 218, 274, 280, 292, 370; mediterranea, 45, 92, 93; Tetralix, 45, 46, 52, 370; vagans, 82, 239, 400.
Erigeron acris, 62.
Eriocaulon septangulare, 44, 56, 104, 219.
Eriophorum, 298; gracile, 117, 228; latifolium, 290, (*pubescens*) 64, 80, 290; polystachion, 51, 54, 64, (*angustifolium*) 45, 52, (capitatum) 125, (as *gracile*) 42, 55; vaginatum, 12, 298.
Ermyn Street, 188.
Erodium moschatum, 64, 247.
Eryngium campestre, 25.
Erysimum, see Brassica; cheiranthoïdes, 286; virgatum, 286.
Erythraea capitata, 398; latifolia, 42; litoralis, 42, 66, 76; pulchella, 40.
Eufragia, see *Bartsia*.
Euphorbia, 122; Characias, 273; corraloïdes, 40; hiberna, 101, 155, 284; Lathyris, 38, 297; Paralias, 42; Peplis, 65, 67, 68, 82; pilosa, 100, 274, (as *epithymoïdes*) 18, 21, 22, (*palustris*) 25, 152, (*procera*) 274, (as *pubescens*) 28; platyphylla, 300; portlandica, 42; stricta, 124, 294, 299, 300.
Euphrasia officinalis, 80, 257, 338, 341, 401, (gracilis) 338, (nemoralis) 57, (salisburgensis) 338, 341, 401.
Evolution, 414.
Exacum filiforme, 64.

Fedia, 35; *Auricula*, 50; *carinata*, 44, 124.
Feizor (tumulus), 228.
Fellowship, 236.
Felpham Church, 226.
Fen-road, Roman, 167, 173.
Fenwick, G. O., 270.
Festuca, 14; ambigua (as *Broteri*), 336, 337, 343, 345; arundinacea, 347, (elatior) 347; heterophylla, 429; Myurus, 345; oraria (*sabulicola*), 71; sylvatica (*Calamaria*), 109, 114; uniglumis, 345.
Filago apiculata, 144, 178, 195, 199; spathulata (*Jussiaei*), 144.
Fitzwilliam Museum, 69.

Flemish Chimneys, 149.
Flixton Church, 189.
Floods in Cambridge, 166, 168.
Flora Bathioniensis, 18, 19.
Fly orchis, 185, 195, 245.
Fountains Abbey, 208.
Frankenia levis, 90, 201.
Franks, Sir A. W., 269.
Fritillaria Meleagris, 61.
Frost, severe, 70, 97, 196.
Fumaria confusa, 336, 380, (as *agraria*) 306; densiflora (*micrantha*), 143, 168, 177, 195, 284; muralis, 347; pallidiflora, 338, (Boraei) 338, 384; parviflora, 157, 158, 168, 177; Vaillantii, 157, 158, 168, 177.
Fylingdales (antiquities), 236.

Gaer (camp), 182.
Gagea lutea, 77, 87, 98, 152.
Galeopsis versicolor, 15, 77, 95.
Galium anglicum, 144, (as *parisiense*) 163; boreale, 11; erectum, 16, 39, 64, 189; palustre (elongatum), 181.
Gamlingay Heath drained, 144, 153, 178, 199.
Garn Fawr (fort), 238.
Genista anglica, 63; pilosa, 82; Tinctorum, 82.
Gentiana Amarella, 43; campestris, 42, 43; nivalis, 125; verna, 113.
Geological Examiner, 335.
Geologizing—Cambridge, 33; Hereford, 92; Manchester, 118; Moffat, 96.
Geranium pyrenaicum, 90; sanguineum, 144, 208; sylvaticum, 226.
Geyser, Great, 135.
Giant's Ring, 164.
Glasgow Cathedral, 28.
Gladiolus illyricus, 329.
Glaux maritima, 45, 52, 53, 171.
Glendalough Church, 51.
Glyceria, 40; *Borreri*, 89, 288, 444; *distans*, 63; plicata, 310, 311.
Gnaphalium *dioicum*, 11, 12, 80; luteoalbum, 65, 68; *margaritaceum*, 105; sylvaticum (*rectum*), 52.
Godmanchester (Roman roads), 157.
Gonioctena, see Chryssomela.
Goodyera repens, 109.
Gorey Castle, 65.
Grabbist Hill (fort), 154.
Graham's Herbarium, 294, 295.
Greenala Point (camp), 203.
Gumfreston Church, 160.
Gymnostoma Griffithianum, 42.

Habenaria, see Orchis; bifolia, 39, 100, (*brachyglossa*) 39; chlorantha, 52, 54; viridis, 16, 23, 63.
Haddon Hall, 227.
Hail-storm, 198.
Haliplus *elevatus*, 20, 63; ferrugineus, 37, 38; *impressus*, 37; mucronatus (*parallelus*), 37; obliquus, 37; variegatus (*subnubilis*), 37.
Haloscias, see Ligusticum.
Haltica, 31, 32; *antennata*, 21, 37.
Harmondsworth Church, 237.
Haste, 349.
Hazel, 52.
Heavitree, J. W. L., 262.
Hedera Helix (as *canariensis*), 205.
Hedysarum onobrychis, 88.
Helianthemum canum, 50, 113; guttatum, 42, 64, 65, 292, (Breweri) 199, 230; polifolium, 82, 345; vulgare (*tomentosum*), 57.
Helleborus foetidus, 19, 48, 89, 98; viridis, 38, 48.
Helobia Gillenhallii, 27.
Helosciadium inundatum (Moorei), 380; *nodiflorum*, (*nodosum*) 53, (ocreatum) 346, (repens) 346.
Hendeka Club, 69, 70, 78, 79, 87, 88.
Henicocerus viridioeneus, 64.
Henslow, J. S., 3, 16, 71, 85, 266.
Herbarium, 35, 110, 276, 354, 361, 368, 372, 377, 391, 392, 418; labels, 337.
Herminium Monorchis, 40.
Herniaria, 41, 189; ciliata, 64, 402; glabra, 47, 64, 177, 285, 328, 402.
Hesperis matronalis, 325.
Hieracium, 66, 116, 159; alpinum (Aggr.), 23, 275; amplexicaule, 113; anglicum, 414; denticulatum, 126; lanceolatum, 114; Lapeyrousii, 120, 445; Lawsoni, 113; molle, 114; murorum, 30; paludosum, 50, 52; Pilosella, 275; prenanthoïdes, 114, 119, 255; pulmonarium, 113; rigidum, 113; strictum, 42; subaudum, 130; sylvaticum, 113, 114; umbellatum, 55; villosum, 113.
Hiley, S., 270.
Hippocrepis comosa, 88, 143.
Hippophaë rhamnoïdes, 124.
Hippuris vulgaris, 15, 49, 61, 105, 133.
Holcus mollis, 51.
Hollingworth, J. B., 264.
Holly, 52.
Holy Island, 26.
Honkeneja peploïdes, see Arenaria.
Hooker's British Flora, 276.
Hordeum maritimum, 16, 73; sylvaticum, 176, 290.
Hore, W. S., 268; mem. in *Journ. of Bot.* xx (1882) 288.
Hutchins, W., 262.
Hybrids, 327.

Hydrocharis Morsus-Ranae, 15, 251.
Hydroporus *depressus*,27; 12-*pustulatus*, 27, (as 12-*punctatus*) 27, (*geminus*) 50; memnonius (*jugularis*), 20, 26, 37.
Hygrotus, 63.
Hylesinus crenatus, 38; fraxini, 38; furcatus, 32.
Hymenophyllum tunbridgense, 12, 55, 80, 124; Wilsoni, 12, 44, 80, 106.
Hypericum Androsaemum, 54, 321, 325; elatum (*anglicum*), 325; calycinum, 50, 325, (*grandiflorum*) 321; elodes, 344; hircinum, 321, 325; humifusum, 52; linariifolium, 66, 72, 81; pulchrum, 52; tetrapterum, 358, (dubium) 14, 15, 358, (*quadrangulum*) 54, 358; undulatum, 358, (*baeticum*) 358, (decipiens) 358.
Hyphydrus ovatus, 38.
Hypochoeris glabra, 108, (Balbisii) 71; maculata, 178, 185, 230.

Iberis amara, 140.
Iceland, cultivation in, 133; Flora of, 201, 211, 299, 302, 356.
Icklingham (antiquities), 201.
Icknield Way, 164.
Illecebrum verticillatum, 81.
Impatiens fulva, 117, 290.
Inula Helenium, 15, 46, 159.
Iris foetidissima, 89; Pseud-acorus, 325; tuberosa, 81, 277.
Isnardia palustris, 78, 280.
Isoëtes, 126, 141; echinospora, 199, 200, 355, 356; hystrix, 349, 350, (*Delalandii*) 350, (*Duriei*) 349; lacustris, 13, 200, 202, 355, 356, (Morei, as *setacea*) 386.

Jenyns, L., 267; mem. in *Journ. of Bot.* xxxi (1893) 320.
Juncus balticus, 107; biglumis, 125; capitatus, 64, 71; castaneus, 115, 125, 289; compressus, 388; diffusus, 138; maritimus, 223; tenuis, 401, 402; trifidus, 253, 257, 289.
Juniper, 158, 212.
Juniperus communis, 43; nanus, 12, 44.

King's College professorship, 110, 111, 283, 285.
Knautia arvensis, 144, 145.
Kobresia caricina, 113.
Koeleria cristata (as valesiaca), 94.

Laburnum, 163.
Lactuca saligna, 40; Scariola, 40; virosa, 61, 178.
Lagurus ovatus, 67.
Lamium Galeobdolon, 62; incisum, 61; intermedium, 65, 76, 95, 107; purpureum, 60.
Langshaw Delves (ancient village), 233.
Larbrea uliginosa, 63.
Lastingham Church, 235.
Lastrea, see Aspidium; aemula, 207, 293, 413, (*foeniseeii*) 154, 293, 295, (*recurva*) 295; cristata (uliginosa), 245; dilatata, 236; dumetorum (Aggr.), 293; Filix-mas, 281, 305, (erosa) 305; rigida, 118, 243; spinulosa, 184; Thelypteris, 160.
Lathraea Squamaria, 98.
Lathyrus hirsutus, 40; maritimus, 288, (*pisiformis*) 112; niger, see *Orobus*; palustris, 50, 158; pratensis, 53; sylvestris, 15; tuberosus, 346.
Lavatera arborea, 42, 65.
Lawes, J., 265.
Lectures, 199, 201, 205, 211, 220, 249, 359, 362, 363.
Leersia oryzoides, 131, 151.
Lemna gibba, 49; minor, 39; polyrrhiza, 15.
Leontodon palustre, 62, 274.
Lepidium Draba, 75, 215; latifolium, 67; ruderale, 21, 57; Smithii, 5.
Lepigonum marinum, 171, 344, 347, 416; rubrum, 344, 350; rupicola, 344; salinum, 347, 348, 349, 416, (medium) 344, 349, 416, (neglectum) 344, 347, 348.
Lepturus, see *Rottboellia*.
Ligusticum Scoticum, 26.
Limnanthemum, see *Villarsia*.
Limosella aquatica, 381.
Linaria Pelisseriana, 65, 71, 72; simplex, 117; supina, 422; vulgaris, 187.
Linnaea borealis, 114, 251, 254, 413, 415, 420.
Linosyris vulgaris, see Chrysocoma.
Linum catharticum, 52.
Liparis Loeselii, 49.
Listera cordata, 108; *Nidus-avis*, 38.
Lithospermum maritimum, 108.
Litorella lacustris, 126.
Llanwarne Church, 152.
Lloydia serotina, 141.
Lobelia Dortmanna, 11, 12, 13, 52, see Dortmanna; urens, 400.
Lobel's Herbal, 154.
Loddiges' Nursery, 70.
Lolium italicum, 181; temulentum, 89.
Lonicera Caprifolium, 49, 139; Xylosteum, 39, 151.
Lotus angustissimus, 64, 65, 74, 276, (tenuis) 40, 57, 90, 380; corniculatus, 42; hispidus, 67, 74, 81, 276; major, 81.

Ludwigia, see *Isnardia*.
Luzula Arcuata, 115, 289; Borreri, 429; nivea, 297, 298; spicata, 104, 106; sylvatica, 5, 236.
Lychnis alpina, 132; diurna (*dioica*), 107; *noctiflora*, 145.
Lycopodium alpinum (as complanatum), 435; annotinum, 12, 253; inundatum, 126; Selago. 13.
Lycopsis arvensis, 105.
Lysimachia ciliata (as *stricta*), 288; punctata, 24; thyrsiflora, 22; vulgaris, 24.
Lythrum Hyssopifolia, 59, 169, 355, 359.

Macroplea zosterae, 21, 89.
Maianthemum, see Convallaria.
Malachius, 21.
Malaxis paludosa, 51, 126, 144.
Malva borealis, 423; moschata, 189; parviflora, 300.
Man orchis, 61.
Mantura, see *Cardiapus*.
Manual of British Botany, 38, 99, 117, 157, 158, 232, 291, 294, 315, 346.
Mathison, W. C., 269.
Matricaria inodora (maritima), 169, see Pyrethrum; phaeocephala, 411.
Matthiola incana, 67; sinuata, 64, 145.
Meconopsis cambrica, 22, 154, 155.
Medicago denticulata, 39, 40, 89, 276; falcata, 163; lupulina, 50; maculata, 40, 62; minima, 39, 62, 112, 201, 288; muriculata, 112, 288; sylvestris, 163.
Medusa, 53.
Melampyrum arvense, 282; pratense, 139, (as *nemorosum*), 294; sylvaticum, 52.
Melica uniflora, 180.
Melilotus alba (*leucantha*), 25; arvensis, 144, 145, 344.
Melittis Melissophyllum, 39, 155.
Meloe, 35.
Mentha, 16, 42; sativa (gentilis), 27, 31, (pratensis), 147; rotundifolia, 155; viridis, 27.
Menziesia caerulea, 107, 109; *Dabeocia*, 44.
Mercurialis annua (ambigua), 65.
Mertensia, see Lithospermum.
Mespilus germanica, 39, 72.
Middleham Castle, 228.
Middleton Church, 235.
Mimulus luteus, 105.
Missions, 217, 220, 222, 237, 252, 371.
Moenchia erecta, 50, 63.
Molinia caerulea, 45.
Monotropa Hypopitys, 109, 255.
Montia fontana, 10.
Moor vegetation, 45.
Morel, 98.
Much Wenlock Abbey, 231.
Mulfra Hill (cromlech), 81.
Mullion Church, 239.
Mulgedium, see Sonchus.
Muscari racemosum, 148, 166, 188, 201.
Mya *margaritifera*, 84; *solida*, 84.
Myosotis alpestris, 290, (as *rupestris*) 413, (*rupicola*) 290, (*suaveolens*) 125, 290; caespitosa, 54; repens, 53, 54; sylvatica, 63, 111, 290, (*lithospermifolia*) 290; versicolor, 61, 63, 100, 298.
Myosurus minimus, 20.
Myrica Gale, 45, 52, 160.
Myriophyllum alterniflorum, 74, 150; spicatum, 13.
Myrrhis odorata, 113, 119, 226.

Naias marina, 398.
Narcissus Pseudo-narcissus, 38.
Narthecium Ossifragum, 45.
Natterjack toad, 20, 89, 90.
Nebria, see Helobia.
Neckera, see Pterogonium.
Nemosoma elongatum, 20.
Neottia *aestivalis*, 65; Nidus-avis, see Listera.
Newbould, W. W., 296.
Nitella, see Chara; capitata, 379, 404; opaca, 379; syncarpa, 379; tenuissima, 389, 396.
Norfolk Archaeologists, 206.
Nuphar pumila, 126, 422.
Nymphaea alba, 12.

Oats and Wheat not interchangeable, 357.
Obb Church, 106.
Oethebius exsculptus, see *Henicocerus*.
Oedipodium, see Gymnostoma.
Oenanthe, 346; crocata, 53; Phellandrium, 90; pimpinelloïdes, 151; silaïfolia, 388.
Oenothera odorata (as biennis), 100.
Oken's Elements of Physio-philosophy, 302, 446; *Journ. of Bot.* viii (1870) 195.
Onobrychis, see Hedysarum.
Ononis reclinata, 74, 276.
Ophioglossum lusitanicum, 324, 350, 357; vulgatum, 172.
Ophrys apifera, 4, 16, 100, 163, 189, see Bee Orchis; aranifera, 61, 88, 192; muscifera, 163, 189.
Orchis *bifolia*, 40; *chlorantha*, 41; incarnata, 397; latifolia, 53, 62, 213, 244; laxiflora, 65, 71; maculata, 53; mascula, 61, 62; militaris, 139, 140; Morio, 61, 62, 63; ustulata, 23, 88, 144, 197.

Ornithogalum pyrenaicum, 99, 148; umbellatum, 89.
Orobanche caryophyllacea, 124; caerulea, 72, 350; Hederae (*barbata*), 67, 72, 83; major, 71; minor, 43, 72; Picridis, 144, 145; rubra, 71, 82, 105.
Orobus niger, 286; *sylvaticus*, 105.
Orphan Home, 213, 214.
Osmunda regalis, 53.
Overton, T., 269.
Oxalis Acetosella, 38; corniculata, 83, 281; stricta, 80, 145.
Oxycoccus palustris, 77.
Oxyria reniformis, 11, 255.
Oxytropis campestris, 114.

Papaver Argemone, 21, 63, 105; *dubium* (Aggr.), 21, 53; dubium (Segr.), 332, 333, (*Lamottei*) 193, 199, 332, 333, 334, 345, 346; Lecoqii, 333, 334, 345, 346, (*modestum*) 332, 333, 334; Rhoeas, 21, 333; somniferum, 6.
Paris quadrifolia, 37, 38, 199, 226.
Parnassia palustris, 221, 243, 244.
Passiflora alata, 76.
Pedicularis palustris, 52; sylvatica, 16.
Penlan Castle, 160.
Penneck, H., 268.
Pen-y-Gaer (fort), 206.
Peplis Portula, 52.
Peranzabuloe Church, 80.
Perthshire Flora, 406.
Petasites vulgaris, 27, 60, 107.
Petromyzon Planeri, 70.
Petroselinum sativum, 57, 105.
Phalaris arundinacea, 52, see Digraphis.
Phalerus coccineus, 34; corticalis, 34; 18-guttatus, 34.
Philosophical Society, Cambridge, 127, 204, 219, 220, 330.
Phleum alpinum, 115, 125, 290, (*commutatum*) 290; Boehmeri, 178.
Phyllodoce, see Menziesia.
Phyllotreta, see Haltica.
Pickering castle, 235.
Pilularia globulifera, 12, 13.
Pinguicula grandiflora, 101; lusitanica, 51; vulgaris, 255, (as leptoceras), 375.
Pinus Lambertianus, 46; sylvestris, 108, 441; Mughus, 441.
Plantago Coronopus, 45, 53, 171; Cynops, 363; maritima, 20, 52, 171.
Platambus, see Colymbetes.
Poa alpina, 12, 106; Balfourii, 125, 128, 130; compressa (*sub-compressa*), 144; *distans*, 16, 90; glauca, 12; laxa, 129; *maritima*, 16; Parnellii, 120.
Polemonium caeruleum, 11, 13, 14, 119.
Politics, 35, 36, 60, 69, 71, 206.
Polycarpon tetraphyllum, 82.
Polygala austriaca, 369, (uliginosa) 375; vulgaris, 15, 68, (depressa), 388, (oxyptera) 71, 81, (serpyllifolia), 234.
Polygonaceae, Indian, 48.
Polygonatum multiflorum, 197, see Convallaria; officinale, 160.
Polygonum aviculare, 278, 299; dumetorum, 38, 57, 275; maculatum (*laxum*), 59, 68; maritimum, 41, 58, 67, 275, (marinum) 41; minus, 58, 429; mite (*Braunii*), 59; Persicaria, 52; Raii, 41, 42, 51, 58, 65, 67, 275, 282, (*intermedium*), 43, (*Roberti*) 278, 279, 281, 430; viviparum, 13, 94.
Polypodium alpestre, 319, 413; Robertianum (*calcareum*), 77, 243, 244; Dryopteris, 12, 22, 212, 246, 249; flexile, 413; Phegopteris, 246; vulgare, 52.
Polypogon monspeliensis, 40.
Polystichum, see Aspidium.
Potamogeton, 324; acutifolius, 39, 151; crispus, 15; decipiens, 402 (as flabellatus) 169, 172, 322; flabellatus, 167, 402, 405; heterophyllus, 257, (gramineus), 15; lanceolatus, 92, 230, 341, 391, 392, 393, 396, 406; longifolius, 367, 406, 439; lucens, 39, 257; natans, 257; nitens, 341, 367; panormitanus, 393; pectinatus, 405; perfoliatus, 15; plantagineus, 72; polygonifolius (*oblongus*), 39, 80, 341; praelongus, 89, 90, 167, 172; rufescens, 39, (as longifolius) 113, 289; sparganiifolius, 157, 347; Zizii, 405; zosterifolius, 17, 64, 144.
Potentilla *Comarum*, 52, 54; fruticosa, 260; maculata (*alpestris*), 289, (*salisburgensis*) 113; rupestris, 15, 23, 411; Tormentilla, 15, 45; verna, 201.
Poterium muricatum, 151, 344.
Prenanthes purpurea, 105.
Primitiae Flora Sarnicae, 78, 79, 268, 276, 279.
Primroses, 87, 378.
Primula farinosa, 24, 244; elatior, 195, 199; veris, 37; vulgaris, 48, see Primrose.
Priority of Name, 394, 400.
Professor of Botany, 197.
Prunus, 149, see *Cerasus*; communis (*capitata*), 154, (insititia) 61, (spinosa) 154.
Psamma arenaria, 281, see Arundo.
Pterogonium Smithii, 40.
Pulicaria vulgaris, 58.
Pulmonaria officinalis, 50.
Pyrethrum maritimum, 73, 80, 107, 151.

Pyrola 30, 252; chlorantha, 299; media, 58, 108; rotundifolia, 68, 299, (*asarifolia*) 299; secunda, 108, 119, 251, 413; uniflora, 108.
Pyrus Aria, 41, 174; Aucuparia, 52; latifolia (as scandica), 368; torminalis, 162.

Quercus Robur, 23, 52, 63, (sessiliflora) 63.

Rampton (camp), 144, 177.
Ranunculus, 103, 382, 408; aquatilis (Aggr.), 133, 321; Baudotii, 295, 298, 329, 380, 430; circinatus, 64, 90, 241; confusus, 154, 159, 322, 329, 330, (Petiveri) 295, 298, (*salsuginosus*) 380; Drouetii, 163, 185, 321, 329, 330, 348; Ficaria, 48; floribundus, 80, 329; fluitans, 156; hederaceus, 52, 63, 142; heterophyllus, 329, 335, 348, 380; hirsutus, 49, 72, 148, 173, 185; intermedius, 383, (*tripartitus*) 162, 298, 321, 383; Lenormandi, 142, 150, 155, 295; ophioglossifolius, 71; pantothrix (Aggr.), 321; parviflorus, 49, 62, 72; peltatus, 329, 330, 380, 384; reptans, 363; sceleratus, 107; trichophyllus, 143, 321, 329, 348; triphyllos, 380.
Raphanus Raphanistrum, 52.
Raths at Killmachedor, 102.
Ray Club, 60, 70, 71, 122, 266.
Red Deer, 52, 93.
Red Lion Club, 85, 95, 112, 120, 127, 138, 139, 151, 156, 175, 181, 186, 192, 193, 200.
Reseda suffruticulosa (*fruticulosa*), 100.
Reviews, 340.
Reykjavik, 132, 136.
Reyner, G. F., 269.
Rhamnus Frangula, 163.
Rhinanthus major, 108.
Rhynchospora alba, 44, 45, 52; fusca, 44, 55, 56.
Riccia natans, 62.
Richards Church, 183.
Richborough (Roman wall), 220.
Ribes alpinum, 24, 119; rubrum (petraeum), 119.
Roemeria hybrida (violacea), 38.
Roman Road, 211.
Romulea, see *Trichonema*.
Rosa arvensis, 40; bibracteata (*systyla*), 21; canina (*caesia*), 27; hibernica, 164, 322; involuta, 377, (*Wilsoni*) 42, 142; micrantha, 40, 51; mollis (*villosa*), 26, 27; scabriuscula, 31, 51; spinosissima, 21; tomentosa, 27.
Rossington Hill (stone circle), 150.
Rottboellia incurva, 16, 41, 57.
Rowlestone Church, 152.
Royal Society, 158, 194.
Rubi Essay on, 325, 335; limit of, 202.
Rubus, 69, 130, 334, 346, 431; absconditus, 436; adornatus, 432; adscitus, 386; affinis, 417, 418, 429; amphichloros, 433; amplificatus, 429; anglosaxonicus, 420, 436, 437; appendiculatus, 395; arcticus, 416; atro-rubens, 432; Babingtonii, 150, 306, 408; Balfourianus, 385, 415; bifrons, 419; Bloxamii, 385; Borreanus, 423, 427, 428; Borreri, 202, 439; brachyphyllos, 425, 427; Briggsii, 367, 368; caesius, 27; calvatus, 368; carpinifolius, 155, 419; castoreus, 416; cerinostylus, 429; Chamaemorus, 115, 248, 257, 420; ciliatus, 415; cimbricus, 436; clethraphilus, 423; cognatus, 432, 435; cordifolius, 417; corylifolius, 420; danicus, 437; debilis, 407, 432; derasus, 386; Devoniensis, 431; discolor, 425; disjunctus, 432; divergens, 415; diversifolium, 432; Dumnoniensis, 428, 431, 432, 433; egregius, 436; erythrinus, 431; fissus, 118, 201; fragrans, 418; Fuckelii, 432, 433, 436; fusco-ater, 367; Gelertii, 436, 437; Genevierii, 433; Güntheri, 150, 155; hemistemon, 395; hirtifolius, 385, 391; Hystrix, 386, 419, 432: Idaeus, 55, 205, 420; imbricatus, 186, 406, 423; incurvatus, 145, 368, 380, 406, 427; Koehleri, 385, 386; Laschii, 432; latifolius, 137; Leersii, 149, 154, 155; Lejeunii, 380, 432, 433, 436; lentiginosus, 417, 419; leucandrus, 418; leucostachys, 306; Lindleianus, 368, 431, 437; Lingua, 155; Lohrii, 433; Maassii, 433; macrophyllus, 420, 431, 436; macrostemon, 426, 433; melanodermis, 437; melanoxylon, 437; mucronatus, 436; Munteri, 433; Myricae, 386; nemoralis, 431, 433; Neumani, 433, 436; Newbouldii, 410; oreades, 436; plicatus, 155; plinthostylus, 417, 424; Purchasii, 378, 387, 410; pyramidalis, 368, 380, 385, 386, 391, 432; ramosus, 368, 406, 423, 424, 426; rhamnifolius, 419; rhenanus, 385; rosaceus, 419, 436; rotundatus, 431, 432; rubescens, 419; rubicolor, 383; rudis, 438; rupestris, 373; Salteri, 368; saxatilis, 191, 416, 420; scaber, 385, 407, 408, 422, 432, 433; scabrosus, 392; Schlechtendalii, 155, 431; sertiflorus, 423; Sprengelii, 150, 431; suberectus, 155, 201, 210; sublustris, 420; teretiusculus, 392; thyrsiflorus, 436;

Rubus—*continued.*
thyrsiger, 412, 436; thyrsoïdeus, 418; tuberculatus, 378, 392; umbraticolus, 386; vestitus, 428; villicaulis, 306, 428, 429; Wahlenbergii, 157; Warrenii, 428; Winteri, 433.
Rumex, 133; acutus (*pratensis*), 41, 53, 64, 181; alpinus, 126; aquaticus, 104, 105, 112, 289, 421: Hydrolapathum, 52, 373; limosus (Steinii), 444; maritimus, 59; maximus, 373.
Runton Church, 220.
Ruscus aculeatus, 239, 255, 400.

Sagina, see Spergula; apetala, 5; ciliata, 148, 149, 154, 169, 343, 350, (*patula*) 343; maritima, 107, 154; nivalis, 363, 364; procumbens, 148; saxatilis, 364, see Spergula *saginoïdes*.
Sagittaria sagittifolia, 15, 89.
St. Lawrence Church, 66.
Salix cuspidata (*Meyeriana*), 118; herbacea, 104, 105, 106; lanata, 135.
Sambucus Ebulus, 77, 325.
Samolus Valerandi, 52.
Sanguisorba officinalis, 31.
Saponaria officinalis, 190.
Sarothamnus, see Spartium.
Saussurea alpina, 106, 142.
Saxifraga aizoïdes, 94; caespitosa, 10, 412, 424, 425, 428; cernua, 125, 156; elegans, 101; Geum, 45, 102; groenlandica, 428; hirsuta, 102, 103, 121; hypnoïdes, 9, 10, 11; nivalis, 10, 12, 13; oppositifolia, 30; rivularis, 125, 129, 156; stellaris, 7, 44, 104, 113; Sternbergii (*hirta*), 338; umbrosa, 27, 44, 52, 101, 102, 119.
Scabiosa, see Knautia.
Schedule, 360, 361.
Scheuchzeria palustris, 15, 23, 47, 141, 275.
Schistostega, 281; pennata, 83.
Schoenus nigricans, 45, 52, 53, 213.
Scilla autumnalis, 65, 66, 239; *natans*, 37; verna, 230.
Scirpus carinatus, 39, 151; lacustris, 13, 197; maritimus, 171; parvulus, 282; pauciflorus, see Eleocharis; pungens (*tenuiflorus*), 65; Savii, 42, 53, 54, 58; triqueter, 151; *uniglumis*, 301, 397.
Scleranthus annuus, 6; perennis, 39, 62, 144, 201.
Sclerochloa, see Glyceria; Borreri, 112, 245; distans, 112, 171, see Poa; maritima, 112, see Poa.
Scolopendrium vulgare, 55.
Scrophularia aquatica, 280, (*Balbisii*) 280; nodosa, 52; Scorodonia, 81; umbrosa (*Ehrharti*), 114, 130.
Scutellaria hastifolia, 80; minor, 15.
Scymnus discoïdeus, 34.
Sedgwick, A., 34, 49, 265.
Sedum album, 99, 377, (turgidum), 151; Forsterianum, 23, 50, (*glaucum*) 62; Rhodiola, 9, 11; rupestre, 149.
Senate, 202, 213.
Senebiera, see Coronopus.
Senecio, see Cineraria; aurantiacus, 402; aquaticus (*barbareaefolius*), 57, (as erraticus) 80; campestris, 197, 201, 222, 234, 398; denticulatus, 374; paludosus, 186; sarracenicus, 16, 114; spathulifolius, 398; squalidus, 207; viscosus, 53, 76; vulgaris, 374.
Serrafalcus, see Bromus; commutatus, 397.
Serratula tinctoria, 100.
Seseli Libanotis, 213.
Sibbaldia procumbens, 115, 125.
Sibthorpia europaea, 39, 65, 102.
Sidbury Church, 255.
Silchester, Roman wall, 154.
Silene acaulis, 134; anglica, 64, (quinque vulnera) 72; conica, 39, 201; inflata, 359; maritima, 191, 359; noctiflora, 222, see Lychnis; natans, 124; Otites, 62, 144, 147, 201, 347.
Siler trilobum, 213, 309.
Simeon, C., 266.
Sinapis arvensis, 63; incana, 67, 73, 74, 276; *monensis*, 300, (*Cheiranthus*) 65, 66, 83, 281, 300; nigra, 195; pratense, 74.
Sinnington Church, 235.
Sisymbrium Irio, 26, 156, 248; thalianum, 167, 412.
Sium latifolium, 89.
Solanum Dulcamara, 56, 57.
Solidago Virgaurea (cambrica), 52.
Sonchus *alpinus*, 114, 289; asper, 52; oleraceus, 52.
South Benfleet Church, 40.
Snowed up, 172.
Sparganium, 172; minimum (as *affine*), 255; natans, 191; ramosum, 15; simplex, 15.
Spartina, 58; alterniflora, 64, 68, 223, 398; stricta, 112, 150, 288; Townsendii, 398.
Spartium scoparium, 45, 71.
Specific names, 350, 363.
Spedlins Castle, 77.
Spergula *nodosa*, 52, 53; *saginoïdes*, 125, 289; *subulata*, 40, 66.
Spergularia, see Spergula and Lepigonum; *heterophylla*, 347; *media*, 347.
Spider Orchis, 185.
Spiraea salicifolia, 14, 126.

Spiranthes, see Neottia; gemmipara, 121, 123, 191, 292.
Spring, early, 19, 147; late, 229.
Springs, temperature of, 33.
Stanton-Drew, Druidical circle, 79.
Stachys palustris, 15, (ambigua) 67.
Staphylinus, 26.
Statice, 45; Bahusiensis, 151, 161, 202, (as tatarica) 290; caspia, 200, 201, 202, 209, 220, 344, (*reticulata*), 20, 255; Dodartii, 339; Limonium, 151, 202, 223; occidentalis, 202, 338, 339, (*spathulata*), 43, 66; *plantaginea*, 64, 65.
Stellaria *cerastoïdes*, 129; glauca, 139; graminea, 359; grandiflora, 342; media, 342, (Boreana), 341, 342, see Alsine, (neglecta), 342, 344, (umbrosa), 78, 80, 342, 344.
Stipa pennata, 287.
Stokesay Castle, 230.
Stratiotes aloïdes, 17, 89, 158, 251.
Streetway (Roman road), 178.
Storm, 227.
Sturmia Loeselii, 40, 399, see Liparis.
Suaeda fruticosa, 201, 220; maritima, see Chenopodium.
Subularia aquatica, 126, 128, 141.
Sunday observance, 247.
Supplement, English Botany, 21, 59, 65, 68, 71, 74, 90, 199, 277, 287, 288, 293, 327.
Synopsis of Rubi, 296.

Tamarisk, 169.
Tanacetum vulgare, 255.
Taraxacum officinale, 274, (*dens-leonis*) 104, (levigatum) 50, (palustre) see Leontodon.
Taxus baccata, 23, see Yew.
Teesdalia nudicaulis, 61, 167, 244.
Teucrium Botrys, 151; Scordium, 103.
Thalictrum, 166; alpinum, 10, 11, 104, 106; majus, 119, 363, (*flexuosum*) 363; minus, 11, 22, 119.
Thesium linophyllum, 278, (as *pratense*) 276, 277.
Thirlmere (Druidical Circle), 212.
Thirlwall, C., 33, 265.
Thlaspi arvense, 61; alpestre, 113, 119, 142.
"Thorough" Club, 200.
Thymus Chamaedrys, 164, 169; Serpyllum, 164, (prostrata) 411.
Tilia grandifolia, 184; parvifolia, 57, 184.
Tillaea muscosa, 89, 213.
Titterstone Clee Hill (Druidical Circle), 183.
Tofieldia palustris, 113.
Tordylium maximum, 380.
Townsend, F., 269.
Tragopogon porrifolius, 40; pratensis, 89, 197, 285, (as major) 15.
Trelystan Church, 183.
Trichomanes radicans, 101, 102, 121, 284, (*brevisetum*), 46, (*speciosum*), 191.
Trichonema Columnae, 64, 241.
Trientalis europaea, 108, 198, 214, 246, 248, 420.
Trifolium, 82; agrarium, 376; filiforme, 388; glomeratum, 89, 153; hybridum, 363; maritimum, 100, 154; medium, 83; ochroleucum, 344; *ornithopodioïdes*, 71, 90; pratense, 343, 421, 422; resupinatum, 79; sativum, 343; stellatum, 39, 151; striatum, 63; strictum, 285; suffocatum, 90, 139; subterraneum, 71.
Triglochin maritimum, 20, 52.
Trigonella ornithopodioïdes, 16, see Trifolium.
Trinia vulgaris (*glaberrima*), 57, 79.
Triticum acutum, 151, 201, 336, (*laxum*) 156, 160; cristatum, 25; repens, 385.
Trollius europaeus, 10.
Turritis glabra, 127, 177.
Tussilago Farfara, 48.
Typha angustifolia, 15; latifolia, 15.

Udora, 143.
Ulex europaeus, 45, (*strictus*) 87, 293; Gallii, 313, (*provincialis*) 57; nanus, 15, 32, 45, 58, 217, 313, 315, (*minor*) 313, 315.
Uley Bury Fort, 175.
Ulva furfuracea, 91.
Unio, see Mya.
Urtica dioica, 100; pilulifera, 90, 174; urens, 133.
Utricularia intermedia, 56, (*media*) 44; minor, 47.

Vaccinium intermedium, 411; Myrtillus, 245; Oxycoccus, 245, 413, see Oxycoccus; uliginosum, 113, 251, 253, 257, 415; Vitis-Idaea, 12, 52, 198, 256, 413, 420.
Valeriana officinalis, 52, (sambucifolia) 79.
Valerianella, see *Fedia*; eriocarpa, 349.
Vallisneria verticillata, 303.
Verbascum Blattaria, 281, 377; Lychnites, 155; nigrum, 276; phlomoïdes, 58, 384; pulverulentum, 90; virgatum, 239, 358.
Veronica agrestis, 48, 52; hederifolia, 48; montana, 163; polita, 52; spicata, (*hybrida*), 57; triphyllos, 62, 167, 201; verna, 39, 62.

Villarsia nymphaeoïdes, 41, 251.
Vicia bithynica, 40; Cracca, 53; gracilis, 344; lathyroïdes, 61, 62, 112, 167; Orobus, see Orobus; lutea, 39; sativa (angustifolia), 61, 65; sylvatica, 113.
Vinca major, 325; minor, 20, 143, 325.
Viola arenaria, 375; canina, 60, 61, 274, (*flavicornis*) 42, 63, (lactea) 274, 375 (lancifolia) 375; stagnina, 153, 155, 164, 177, 185, 375; hirta, 60, 71, 148, 196, 201; lutea, 14, 166, 341; (Curtisii), 42, 43, 341, (*sabulosa*) 341; odorata, 48, 60, 61, (*imberbis*) 37, 271, 274, (permixta) 384; palustris, 10; parvula, 384; sylvatica, 143, (Reichenbachiana) 350, (Riviana) 350; tricolor, 6, (*Symei*) 341.
Viscum album, 20.

Wahlenbergia, see Campanula.
Warren Camps, 161.
Weeting Tower, 166.
Welshpool (antiquities), 228.
Wheat, early, 209.
Whitethorn, 215.
Whirlwind, 209.
Wilson, J. B., 269.
Wilson, W. P., 270.
Wimborne Minster, 234.
Wood Anemone, 87.
Woods in Ireland, 52, 441.
Woodsia hyperborea, 42, 156; ilvensis, 113, 120, 133.
Wragsholme Tower, 242.
Wrekin (fort), 233.
Wrockwardine Church, 232.

Yew, 57, 87.
Y-foel-Fenlli (fort), 174.
Youlgrave Church, 227.

Zannichellia palustris, 41, 57, 62, 245, 275, (pedicellata) 68, 151; polycarpa, 381.
Zeugophora subspinosa, 39.
Zostera marina (*angustifolia*), 151; nana, 151.

INDEX II.

MEMORIALS.

(*Gives also the names of correspondents, and borrows from Journal and Correspondence.*—J. E. B. M.)

Académie internat. de Géographie Botanique, xx.
Adams, Prof. J. C., xxvi, li, liv, lxi, 164, 165, 193, 238.
Ahôk, Mrs., xxv, 256.
Alli, Jani, xxiv, xxv, xxxiv n. 28, xliii, liii, lxii, lxiii, lxiv, 221, 223.
Anacharis Alsinastrum, xxi, xxxii n. 16, lxxiii, lxxiv, 304, 305.
Aran, S. Isles of, Ireland, Firbolgic forts there, xc.
Archaeological Associations, British and Cambrian; Royal A. Institute; Irish A. Society, xx.
Atkinson, Dr. E., xliv, xciii.

Babington, see the Pedigree, in pocket. No name, earlier than Thomas, grandfather of C.C.B., is mentioned in this index.
Babington, Charles Cardale, son of Joseph Babington and Catherine his wife, daughter of John Whitter, was born at Ludlow, 23 Nov. 1808, xxviii, xxix, xxx, lxvii, 1; his baptism, vaccination, and early schools, 1, 2; with the Rev. Wm. Hutchins from Aug. 1823 till Oct. 1826, 2, 3; some account of Mr. Hutchins and his pupils, 262-3; collected plants and insects, 2; William Wilberforce befriends him, 2, 3; 11 Oct. 1826 enters St. John's College, reads with Maddy, joins a Phrenological Society, 3; father died 15 Dec. 1826, 3; attends Hollingworth's divinity lectures in Lent Term 1827, 3; attends Henslow's botanical lectures, and puts an end to the Phrenological Society, 1828, 3, 4; B.A. Jan. 1830, 4; F.C.P.S. 24 May 1830, 4; tour in Wales, 1830, 4-8; 2 Nov. 1830, F.L.S., 8.—1831. Jan. 29, went into New Court, 8; tour in Wales, 8-15; gathers in Staffordshire hundreds of specimens for examination, 15.—1833. Botanizing in Essex; British Assoc. in Cambridge, 16, 17; created M.A. July 2, 18; undertakes *Flora of Bath*, 18; mother dies 18 Nov. xxviii, 18.—1834. Jan. 1, *Flora Bathoniensis* published, xxi, xxii, lxviii, 19; founds "Bath Horti-

Babington, Charles Cardale—*contd.*
cultural and Floral Society," 19, cf. 22; 15 March, signs petition against tests, 20; in Norfolk, 21, 22; sends specimens for Sowerby's *Supplement* and a paper on *Dromius* for Entom. Soc., 21; gathers specimens for Henslow and W. Christy, 22; Bath, Shrewsbury, N. of England, Scotland, Brit. Assoc. Edinb., Berwicks. Nat. Club, 22-32; 5 Nov. removed into A New Court, 33; protest against Thirlwall's dismissal, 33; Norfolk, Cambs. 34, 35.—1835. Protest against Tory intimidation in elections, 35-36; 11 May, began *Manual of British Botany*, 38; at Henfield, 39, 40; Sussex, Wales, 41, 42; Brit. Assoc. at Dublin, 42, 43; Ireland, 44-47; 12 Nov. hon. member Shropshire and N. Wales Nat. Hist. Soc., 47; 17 Nov. (and 23 Mar. 1836), F.G.S., 47, 48.—1836. 4 Feb., first saw M. J. Berkeley, 48; Cambs. Wales, Ireland, 49, 56; 5 July, M.A. Tr. Coll. Dubl., 50; Aug. Brit. Assoc. Bristol, 56, 57; Bath, Southampton, Henfield, 57-59; 19 Nov. Simeon buried; 29 Nov. four trees blown down in college walks, 59.—1837. Jan. 25, influenza, 60; 27 Feb.-11 March, Ray Club founded, 60; Suffolk, 61; 31 May, a farmer of extensive information, an antiquary, 62; Leicestershire, 63, 64; July and Aug. Channel Islands, 64-68, 275, 276; Sept. Brit. Assoc. Liverpool, one of three secretaries of Nat. Hist. Section, 68, 69; 2 Nov. Foundation stone of Fitzwilliam Mus., 69; "Hendeka" Society, 69.—1838. 28 Apr. Secretary of Ray Club, 71; 1 June-8 Aug. Channel Islands, 71-75, 276-280; 28 June, Coronation day, 73; Aug. Brit. Assoc. Newcastle, 76; Scotland, Bath, 77.—1839. Jan. 7, *Rubi*, 78; Apr. 3-12 June, *Primitiae Florae Sarnicae* at press, 78, 79; Cornwall and Devon, S. Wales, 80-84, 281; Hereford, Worcester, Brit. Assoc. Birmingham, 84-85; Dr. Hancock's steam carriage on the Trumpington road, 85.—1840. 10 Jan. Penny Post, 86; 20 Jan. letter on distress in Ireland from the loss of turf from floods, lxv-lxvii; Bath, 87; 30 May, "Hendeka" Soc. dissolved, 88; Suffolk, 89, 90; Hereford, 91; Ireland, Achill Mission, Scotland, 92-95; Brit. Assoc. Glasgow, Scotland, 95, 96.—1841. Bath, 98-100; 30 June, G.W.R. opened, 100; Ireland, Scotland, 100-102; Hebrides, 103-109, 283-4, 442; Aug. 29-Oct. 5, working for Edinb. Bot. Soc. 109, 286, 288, 291; November meteors, 110.—1842. 18 Jan. declines to stand for the chair of botany at King's Coll. London, 110, 111, 283, 285; Brit. Assoc. Manchester, 112, 288; N. England, Scotland, Staffa and Iona, 112-116, 290; Sept. 14-30, collecting Brambles at Jardine Hall, 117.—1843. 1 May, asked to attend (as one of two English botanists) a meeting at Gratz, 291; 24 May, *Manual* published, 117; Shrewsbury, Manchester, the Lake Country, Yorkshire, Brit. Assoc. Cork, 117-120, 292; Ireland, Wales, Bath, 120-122; Oct. 25, 26, the Queen at Cambridge, 122.—1844. Feb. Syndicate to consider the removal of Bot. Garden, 123; with Prof. Balfour and three students in Scotland, 125-127; Sept. arranged European plants for Edin. Bot. Soc. Brit. Assoc. York, 127; 6 Nov. Secr. C.P.S., 127.—1845. Eastern Co. R. opened July 30, 128; Scotland, 128-130; Brit. Assoc. Winchester, 130.—1846. *Synopsis of Rubi*, xxii, 297; June 16-July 19, Iceland, 131-136, 297, 299, 300, 301, 302; Scotland, 137, 138; Brit. Assoc. Southampton, 138.—1847. Brit. Assoc. Oxford, 139, 140; July 5-7, Prince Albert's installation, 140; Wales, 141-142.—1848. Cambs. Wales, Brit. Assoc. Swansea, 143-147; Anacharis Alsinastrum, 305.—1849. Cambs. Bath, Somerset, and N. Devon, 148-150; friction in Brit. Assoc., 308-9; Brit. Assoc. Birmingham, 151, 152, 311, 312; Herefordshire, 152; paper on *Charae*, 312, 314.—1850. Bath, 152; Cambs. and Suffolk, 153; meeting of Arch. Inst. Oxford, 154; Somerset, N. Devon, 154, 155; Brit. Assoc. Edinb., 155; Scotland, 156; Cambs. Hunts., 157.—1851. 26 Mar. his aunt Bedford died, aet. 74; gives up house at Bath, 157; revision of "Catalogue," 315, 316; *Manual*, ed. 3, 158; Great Exhibition, 158; Brit. Assoc. Ipswich, 158; Chepstow, Somerset, Wales, 159-162, 318; 25 Aug. Thirlwall preached an excellent sermon, 160; Oct. at Exhibition, 162.—1852. Cambs., 163; 16 July, voted at Nuneaton for the losing candidates, 163; Cambs., 164; Brit. Assoc. Belfast, 164-5; Ireland, 165, 166; 13 Nov. great flood, 166, 167.—1853.

Brandon, Thetford, Denver, Royston, 166-168; Cambs. Sussex, Bath, 169; Cambs., 170; Brit. Assoc. Hull, 170, 173; at Wisbech the salt marshes have vanished, and with them most of Relhan's plants, 171; Herefordshire, Bath, 171, 172; projected *Flora of Cambridgeshire*, 323.—1854. Jan. 3, 4, deep snow, 172; Cambs. Rossall Pits, Denver, 172, 173; Arch. Inst. at Cambridge, 173; 27 July, Henslow brings 280 of his parishioners to Cambridge, 174; Cambs. Lichfield, Etocetum, Wales, 174, 175; Brit. Assoc. Liverpool, 175; Birmingham, Dursley, Bath, Athenaeum Club, 175, 176.—1855. Cambs. Herts. Cambs., 177, 178; Arch. Inst. Shrewsbury, 179; Cambr. Arch. Assoc. 179; 20 Sept. no undergraduates in hall, 179.—1856. Wales, Cambs., 180, 181; A. G. More, 326; Linn. and Roy. Soc. photographed, 326; Brit. Assoc. Cheltenham, 181; Cambr. Assoc. Welshpool, 181, 182; Wales, Ludlow, Herefords. Bristol, 182-184.—1857. 11 March, address to Ray Club, xxxi n. 8; Cambs., 185, 186; Cambr. Arch. Assoc. Monmouth, 186; Brit. Assoc. Dublin, 186; Aran, Wales, 187; St. Margaret's, Loddon, 187; Oct. 24, flood at Cambridge, 188.—1858. Insect collection, C.P.S., 330; Peterborough, annular eclipse of the sun, 188; 29 May, water let into Botanic Garden pond, 188, 189; Cambs., 189; Arch. Inst. Bath, 188, 189; Ireland, 190-192; Cambr. Arch. Assoc. Rhyl, 192; Brit. Assoc. Leeds, 192; 23 Nov. Cam frozen, 192. 1859. in a barge to Bottisham and Wicken Fens, 193; Cambr. Arch. Assoc., E. A. Freeman, 193; Brit. Assoc. Aberdeen, 193; at Balmoral, 194; Dec. 14-19, frost; Dec. 22, admitted F.S.A., 194; *Flora of Cambridgeshire*, 334, 335.—1860. Feb. 28, hurricane blew down many trees, 194; *Flora of Cambridgeshire*, 195, 336, 342, 344, 347, 351; Cambs., 195; Brit. Assoc. Oxford, xx, xxxi n. 15 (see Huxley), 195, 344, 345; Cambr. Arch. Assoc. Bangor, 195; Wales, Somerleaze, 195, 196; 25 Dec. frost nips evergreens, 196.—1861. Henslow sinking, 352; 12 June, elected Professor of Botany, without opposition, 197; helps T. A. Preston at Marlborough, 197, 351-353; Aug. Cambr. Arch. Swansea; Sept. Brit. Assoc. Manchester, chairman of section D, 198; Yorkshire, 198; plan of lectures, 353, 354.—1862. *Manual*, ed. 5, lectures, 199; July 22, by new railway to Potton, 199; Wales, Cornwall, Wells, 199, 200; Brit. Assoc. Cambridge, 200, 355, 356.—1863. working at *Flora of Iceland*, 201, 356; 23 June, the "Labyrinth" taken down, 201; Shrewsbury, Caradoc Field Club, Church Stretton, 201; Wales, 202; Nov. 10, sale of Linn. Soc. collections, 202.—1864. 15 Apr. Member of Council of Senate, 202; Wales, 202, 203; Brit. Assoc. Bath, 203; good classes at lectures, 358, 359.—1865. Jan. 19, began removing Botanical Museum to New Museums, 203, 361; Marlborough College, study of Nat. Hist. there, 360-362; Bath, 204, 364, 365; Mudd, the curator, 204, 363; Ireland, 204, 205; 1 Oct. dined for the first time in the New Hall of St. John's, 205.—1866. Nat. Science at Harrow and Marlborough, 365, 366; 3 Apr. Easter Tuesday, married at Bath, xxix, 205; Wales, 206.—1867. Devon, Cornwall, Wilts., 206, 207; over sixty men at lectures, 366. —1868. Jan. 28, Talbot Bury, architect of the new St. Barnabas Church, 208; cf. 211; Yorkshire, 208; 12 July, photographed for Roy. Soc. picture, 209; Wales, 209; whirlwind at Shelford, 209; 14 Dec. address to Ray Club, xxxi n. 8.—1869. *British Rubi*, xxii, 368; Hort, Churchill Babington, E. A. Freeman, Wells, Wales, Shrewsbury, Ludlow, 210, 211.—1870. *Iceland Flora*, 211; Lectures to Women, 211; E. A. Freeman, Wales, 211; Lake district, 212; 213.—1871. Cottage Home for Orphan Girls, 213, 214; Tuddenham Fen, 213; Brit. Assoc. Edinburgh, 213; Scotland, 214.—1872. Jan. 1, Cottage Orphan Home opened, 215; E. A. Freeman, Rede Lecturer, 215; Cambr. Arch. Assoc., Brecon, 215; Wales, 216.—1873. I. of Wight, Derbys., Wales, 217; Ireland, Irish Church Missions, xl, xli, 217-219, 371; Oct. 27, President C.P.S., 219. —1874. Admitted lady students to lectures for the first time, 220; 17 Nov. Dr. Barnardo, 220.—1875. Cromer, Kent, St. David's, 221; Jani Alli, 221.—1876. Cromer, Wales, Somerleaze, 222; death of Sir Chr. Lighton, 377.—1877. Somerleaze, Wales, Jani Alli, 223; hopes to obtain

Babington, Charles Cardale—*contd.*
an assistant curator for the Herbarium, 382; cf. 224.—1878. Wales, 224, 225; St. Barnabas Church, 225.—1879. meetings for "Sailors' Rest" and Irish Church Missions, 225; Yorkshire, 226; Aug. 2-3, thunderstorm and flood, 227; Derbyshire, Wales, Yorkshire, 227, 228; Oct. 17, corner-stone of Ridley Hall laid, 228; 10 Nov. Prof. Clerk Maxwell's funeral, 228.—1881. Derbyshire, Mildmay Conference, Wales, Church Stretton, 229-231.—1882. Jan. 10, postmen in Alexandra Hall, 231; Jan. 28, opening of Ridley Hall, 231; Mar. 31, funeral of Dr. Bateson; 1 June, first stone of Selwyn College laid, 232; Ludlow, Shropshire, Yorks., 232-234.—1882. 26 Apr. present at C. R. Darwin's funeral, 234; 25 May, Botanic Garden opened on Sunday by 88 votes to 76, 234, cf. xci-xciii; Wales, Yorkshire, 234-236; elected Fellow of St. John's 20 Oct., admitted 1 Nov., 236.—1883. *Ancient Cambridgeshire*, ed. 2, 237; 9 Aug. T. H. Corry drowned, 237, xxxiii n. 27; Wales, Cornwall, 238-240; Dec. 9-March 11, 1884, unable to walk, 240, 400.—1884. Devon, 241; North England, 242-244; Oct. 22, attended Ray Club for first time since Dec. 1883, 244; Nov. 10, Prof. Fawcett's funeral, 244.—1885. Feb. 2, China Indian Mission, meeting in Guildhall, "The Cambridge Seven," 244, xxv, lxiv; 3 March, "health wonderfully restored," 404; North England, Oxfordshire, Scotland, 244-247; Archbishop Leighton's library at Dunblane; Brit. Assoc., Aberdeen, 246; 23 Dec. endeavours to relieve the postmen from Sunday work, 247.—1886. 16 April, W. W. Newbould died, 247 (cf. C. C. B. in *Journ. of Bot.* xxiv 159, 160, 161); 6 July, voted for W. Cambs. and N.E. Warwickshire and Trinity College, Dublin, 247; North England, Scotland, 248, 249; 20 Sept. lecture at Braemar, 249; 18 Oct. Bp. Parker's consecration, 249; 2 Dec. memorial stone laid of Henry Martyn Hall, 249.—1887. Jan. 9, H. C. Cory died, 250; Sussex, Lichfield, Braemar, 250-2; 18 Oct. opening of Henry Martyn Hall, 252; Nov. 24, Sir A. Blackwood addressed the post office officials, lvi, 252; 29 Nov. address to Ray Club, liii, liv, xxxi n. 8.—1888. 11 May, F. F. Tracy died, 252; 18 July, visit of Bishops to the University, 253; Braemar, xli, lxi, 253, 254, 420.—1889. Jan. 12 death, Jan. 17 burial, of Churchill Babington, 254; April 12, Dr. Kennedy's funeral, 255; June 13, laid the foundation stone of St. Philip's Church, 255; Braemar, 255, 256, 424.—1890. 23 May, Mrs. Rob. Stewart and Mrs. Ahôk in the Guildhall, xxv, 256; Southwold, 256; Braemar, 257, 434, 435; Nov. 23, Sir A. Blackwood's last Bible reading at Brookside, lxiii, 257.—1891. Letters, Jan.-June, 436-438; May 16, snow; Peterborough, Wimpole; July 14, Miss Ray and Canon Thornton spoke in support of Count Campello, 258; Braemar, 15 Sept. illness sets in; Dec. 2, sets out for Cambridge, 258-260.—1892. In Cambridge, letters dictated, 260, 438, 439.—1893. In Wensleydale, letter in pencil, Cambr. Dec. 5, 262, 439.—1894. In Teesdale, 260, 261, 440.—1895. Death, 22 July, xxix, 261; funeral, grave at Cherry Hinton, Irish Cross, xxix, xxx, xxxiv *add.*; brass in College Chapel, portrait in College Hall, xxx. (For his character see "Contents" to *Memorials*; for his works *Bibliography*).

Babington, Prof. Churchill, xviii, xxiii, xxviii, xxix, xxx *bis*, xxxiv n. 31, liv, lxi, 50, 70, 78, 85, 88, 97, 144, 209, 279, 280; his death, 254; mem. in *Journ. of Bot.* xxvii (1889), 110-11.

Babington, Fred. Jo., xxix.

Babington, Jo. Alb., xxxv-xxxviii.

Babington, Joseph, father of C.C.B., xxviii, xxix, lxvii, 1; his death, 3; Harford, *Recollections of W. Wilberforce*, 186. In the pedigree and in Foster's *Alumni Oxon.* the day of his death is 16 Dec. 1826; in the *Journal*, 15 Dec. Probably he died in the night of 15-16 Dec.

Babington, Matt., xxviii.

Babington, Matt. D., xxviii, 49.

Babington, Tho. († 1776), xxviii.

Babington, Tho. († 1837), xxviii.

Babington, Tho. G., xxxv.

Babington, W., xxviii.

Backhouse, James, 335, 409, 411, 418; letters to, 375-6, 399, 402, 412; mem. in *Journ. of Bot.* xxviii (1890), 353-6.

Bagnall, Jas. E., lxxvii-lxxx; letters to, 383, 395, 419.

Baily, W. P., 266.

Baker, J. G., lxxxvii-lxxxix, 198; *Journ. of Bot.* ii (1864), 191, 255, 359.

Balfour, Prof. F. M., liv.
Balfour, Prof. J. H., xviii, xxxi n. 12, lxxii, lxxviii, 76, 91, 96, 97, 103, 107, 108, 109, 114, 123, 125, 126, 128, 129, 138, 155, 214, 219, 283, 288; letters to, 283-4, 285, 288, 291-2, 293-4, 296-8, 302-6, 307-10, 311-13, 314, 315-18, 319, 321, 325-6, 327, 328-30, 351, 355, 356, 359, 363-4, 370, 382, 391, 441-4; mem. in *Journ. of Bot.* xxii (1884), 128; Boase, *M.E.B.*; *D.N.B.*
Ball, John, xxx, liv, lvi, lxviii, lxxxvii, 43, 47, 48, 78, 79, 87, 117, 266, 279; obituary in *Annals of Botany*, iii, 450, in *Journ. of Bot.* xxvii (1889), 365-370.
Banning, lxxxvi.
Barnardo, Dr., xxv, 220.
Barton, J., xci.
Bashforth, F., li.
Bateson, Dr. W. H., li, 99, 192, 232.
Bath, subscriptions (1840) for the Irish, lxvii; Joseph Babington settles there lxvii; Mr. Hutchins' school, lxvii, 2, 262, 263; Bath Flora, xxi, xxii, xxxii n. 18, 19, lxviii, 18, 19.
Batty, R. B., xl; Mrs. R. B., xl, xli, 254.
Beeby, W. H., letters to, 407, 411, 415-17, 440.
Belgium, R. Bot. Soc., xx.
Bendyshe, Tho., xxiii.
Bennett, A., 390; letters to, 375, 393, 399, 404-5, 410.
Bentham, *Handbook of the British Flora* (1858), lxx, lxxi.
Berkeley, M. J., xxxiv n. 31; *Journ. of Bot.* v (1867), 185, xvii (1879), 345.
Bibles, the two, li, lvii, 38, 265.
Billot, C., ix, lxxxviii.
Blackwood, Sir S. Arthur, xxv, lvi, lxii, lxiii, 244, 252, 255, 257.
Blayds, C. S. (Calverley), 263.
Blomefield, L. (formerly Jenyns), lxxxvii, 68, 267.
Bodmin, xc.
Bonney, T. G., xxiii, 199, 201, 211.
Boreau, lxx, lxxxviii.
Borrer, W., lxxii, lxxiii, 267, 276, 421; letters to, 276-7, 279-82, 284, 286-8, 289-91, 293, 295, 297, 298, 299-301, 318, 321-4, 326-7; his herbarium, *Journ. of Bot.* i (1863), 31.
Bosch, R. B. v. den, x; d. 18 Jan. 1862, aet. 51 (*Journ. of Bot.* i 1863, p. 64).
Boswell-Syme, see Syme.
Botanical Gazette, lxxiii.
Botany, Journal of, lxxiii, 446; Old and New, xxi, lix, lxxvi, lxxvii.
Bradshaw, Henry, xxiii, lii; Boase, M.E.B.; *Memoir*, by G. W. Prothero, Lond., 1888, 8vo; *Collected Papers*, Cambr., 1889.
Braemar, xli, xlvi, lxi, lxii, lxxvii, lxxxviii, 246, 248, 249, 251-260, 415, 430, 434, 435.
Brandenburg, Botanical Society of, xx.
Bridges, N., xlvi, 125, 256.
Briggs, T. R. A., letters to, 358, 367-8, 373-4, 376, 391, 400, 406, 407, 412, 417, 418, 419-421, 423, 424, 426-8, 431-4, 436.
British Association, xx, xxxi n. 13-15, lix, lx, lxxiii, lxxvi.
Britten, James, F.L.S., 400; obituary on C.C.B., lxvii-lxxvii; review of *Manual* (ed. 8), lxxi; account of W. W. Newbould, lxxv; at a Benedictine Abbey, xcvii.
Brocklebank, Tho., xxiii.
Broomhall, secretary of China Inland Mission, lxiv.
Browne, Mrs. Harold, xxv.
Bullock, Geo., 268.
Burkill, J. H., viii, x, lxxiv, lxxv, lxxvii; letter to 440.
Butler, Dr. H. M., xlii, xliii.

Cabrera, Bishop, xxv, liv.
Calverley, C. S., 263.
Cambrian Archaeological Association, xx, lxxxix, xc.
Cambridge in 1826, xvii, lxi; King's in 1826, *ibid.*; Antiquarian Society, xxii-xxiv, xlix, lii, liii; St. Barnabas Church, xxv, xliii, lv, 208, 225; St. Philip's, 255; Botanic Garden, question of Sunday Opening, lv; new garden, 443; St. John's New Court (1831), xvii; the *Eagle*, xviii; the New Chapel, xviii, xxx; one of the poorest colleges, lviii; mathematical monopoly in 1826, lviii; Ancient Cambridgeshire, Infirmary and Chapel of the Hospital of St. John, xxiii; University Library (1835), xvii; Girls' Orphan Home, lv, 213, 214, 222; herbarium, xxviii, l, lii, lx, lxx, lxxiv, lxxv, 110, 224, 382; museum syndicate, l; *Flora of Cambridgeshire*, xxiii, lxxiv, lxxxix, 195, 335, 336, 342, 344, 347, 387; Cambridge Philosophical Society, xix, xlix, lx, see Ray Club; the "Cambridge Seven," xxv, lxiv, 244; postmen and telegraph boys, xxv, lvi, lxii, 231, 247, 252, 254, 257.
Campello, Count, xxv, liv, lxiv, 258.
Camus, lxxxii.
Cardale, Jos. († 1752), xxviii.

Cardale, Jos..(† 1786), xxviii.
Cardale, Lydia, xxviii.
Carnarvon Castle, xc.
Carruthers, lxxi.
Carter, Mrs. Barwell, 373.
Charterhouse, lxvii, 1.
Cherry Hinton, C. C. B. buried there, xxix, xxx, xxxii *add.*, lxxvii.
China Inland Mission, xxv, xxxiv n. 29, lvi, lxiv, 223, 244, 252, 256.
Christopher, A. M. W., xlv, 247.
Churchill, Hannah, d. of Benj. Fleetwood C., mother of Churchill Babington, xxviii.
Clark, G. T., lii, 198, 202; pedigree.
Clark, Prof. William, liv, lviii.
Clifton, Prof. R. B., liv.
Cloncurry, Earl of, lxvi.
Cobbold, E. S., l.
Collings, E., of Bath, xxi, lxviii, 2, 18.
Cooper, C. H., xxiii, lii.
Corrie, Dr. G. E., xxiii.
Corry, T. H., xxiv, xxxiii, lxxiv; "A "Dirge," xciv; 237, 399.
Cory, H. C., xxx n. 4, 217, 218, 223, 225, 241, 371; his death, 250 (*prius* Eadie).
Cowell, Prof. E. B., xxxix, xci, 209, 216, 217, 220, 225, 237, 253, 255.
Crépin, M. F., ix.
Crotch, G. R., liv, 372; *Mem. of Hen. Bradshaw*, 89, 90, 192; d. 16 June, 1874.
Cumming, Prof. James, liv, 372.

Daly, R., rect. of Powerscourt, lxv.
Darwin, C. R., xix, xxxi n. 9, lix, lxxiii, 70, 71, 265; letters to, 355, 359.
Darwin, Frank, lxxvii.
Davis, Dr. J. F., lxviii, 18.
Denmark, Kjökkenmöddings of, xc.
Douglas, A., rect. of Drumgoon, lxvi.
Drumgoon, co. Cavan, lxvi.
Dryden, Sir H. E. L., xxiii.
Du Mortier, R. C., x; *Journ. of Bot.* xvi (1878), 255; d. 9 July, 1878, aet. 82.
Dunblane, lii, 246.
Duthie, J. F., letters to, 369, 372, 375.
Dytiscidae Darwinianae, xxxi n. 9, lxxiii, 70.

Eadie, H. C., xxx n. 4 (*post* Cory).
Edinburgh, Botanical Society of, xx, xxxi n. 12.
Edmonston, T., ix, 282.
Edw. II., his supposed birth in the Eagle Tower of Carnarvon Castle, xc.
Ellicott, Bishop, xlii.
Ellis, Sam., of the Cambridge Post Office, lvi.
Elodea Canadensis, xxxii n. 16.
Entomology, xix, xxxi n. 9, lx.

Focke, W. O., ix, lxxix, lxxx-lxxxiv, lxxxvi; *Journ. of Bot.* xv (1877), 256.
Forster, E., lxxii.
Francis, F. R., xxxviii.
Francis, Philip, xxxviii.
Franklin, Benj., xvii.
Franks, Sir A. W., liv, 147, 190, 194.
Freeman, E. A., lii, 160, 175, 176, 180, 189, 190, 192, 193, 196, 200, 210, 211, 215, 222, 223.
Fries, Elias, ix, lxx, lxxxviii, 314; letters to, 444-5; d. 8 Feb. 1878 (*Journ. of Bot.* xvi, 95, xvii, 33-37).
Fryer, Alfr., xlviii; letters to, 377, 378, 379, 381, 387, 388, 389, 397, 399, 402, 405, 422, 439.

Gaervawr, and a supposed Roman Road near Welshpool, xc.
Gandoger, lxxxiii.
Gardner, William, xxxv.
Garnons, W. L. P., 267; *Journ. of Bot.* i (1863), 160.
Gay, Jacques, ix, lxxv, 199, 200, 355; letter to, 445; *Journ. of Bot.* ii (1864), 64, xxiv (1886), 166.
Genevier's *Rubi*, lxxiv, lxxix, lxxxi, lxxxii, lxxxiii, lxxxiv, lxxxvi, 368, 391, 392.
Gibbes, Heneage, xxii, xxxii n. 19, lxviii, 18.
Godron, D. A., lxx, lxxxviii; *Journ. of Bot.* xix (1881), 147.
Goodwin, C. W., xxii.
Gray, Asa, x, 231.
Gray, J. E., lxxiii.
Grenier, Ch., ix, lxx, lxxxviii; d. 9 Nov. 1875; *Journ. of Bot.* xiv (1876), 32.
Griffith, J. E., letters to, 389, 391, 406.
Griffiths, Mrs., of Torquay, algologist, 82; *Journ. of Bot.* iii (1865), 102.
Groves, Hen., letters to, 379, 381-3, 388-390, 393-5, 396, 401, 404, 407, 408, 430, 435, 436, 438.
Guernsey, xviii, xxxiii n. 23.

Hacket, Bishop, his watchword, xxvii, lxii; Southey's *Letters*, iv, 256.
Hanbury, F. H., 424; letters to, 409, 413-15, 418, 434.
Hardwick, Charles, xxiii, xliv.
Henslow, Prof. J. S., xix, xxix, xxxiv n. 31, xliii, lii, lviii, lxi, lxxii, lxxiv, lxxxix, 4, 8, 20, 33, 34, 35, 36, 38, 39, 47, 49, 59, 71, 86, 88, 90, 99, 111, 122, 123, 167, 172, 174, 176, 193, 247, 297, 309, 318, 319, 343, 352, 353, 355.

Heurck, H. v., x.
Heywood, James, xxiii.
Hillhouse, W., lxxiv.
Holland, Bot. Soc. of, xx.
Hooker, Sir J. D., letters to, 353-4, 355.
Hooker, Sir W. J., *British Flora*, lxix; letters to, 273-276, 278-9, 281, 292.
Hort, Prof. F. J. A., xxii, xxiii, xxxix, liv, lvii, 146, 148, 150, 152, 153, 159, 167, 168, 209, 313, 324, 337; mem. in *Journ. of Bot.* xxxi (1893), 63-4.
Howson, J. S., 267.
Hughes, Prof. T. M., xlix, liv.
Humphry, Prof. Sir G. M., liv.
Huxley, T. H., xx, xxxi n. 15 (cf. C. Darwin's *Life*, II^3, 319-325), lvi, lxxvi, lxxxix, 158, 162.

Iceland, xviii, xxxiii n. 24, lii, lxxiii, 279, 290; *Journ. of Bot.* viii (1870), 235-8.
Iona, xxvii, 116.
Irish Church Missions, xxv, xxvii, xli, lxii, lxiii, 93, 217, 218, 225.
Irish Crosses, xxx n. 1.
Irish distress (1840), lxv-lxvii.
Italian Church Reform, xxv, liv, lxiv, 258.

Japan, Christian literature sent to the post offices, lvi.
Jenyns, L., see Blomefield.
Johnson, Samuel, xxvii *bis*.
Johnston, Dr. George, xix, xxxi n. 11, xxxii n. 16, 25, 26, 27, 76, 130, 156, 248, 305, 373, 444.
Jordan, A., ix, lxx, lxxxviii.

Ken, Tho., Midnight Hymn, liv.
Koch's *Synopsis*, lxx, lxxxviii.

Lang, J. T., xci.
Lange, J., ix, lxxxviii.
Lees, , *Introduction*, lxvii, 2, lxxxvi, lxxxvii.
Lefevre, L. V., lxxx.
Leighton, Archbp. R., lii, 246.
Leighton, W. A., lxxii, lxxxvi, 15, 23, 117, 118, 304; of St. John's, B.A. 1833; d. 28 Febr. 1889, *D.N.B.* and Boase, *M.E.B.*; *Journ. of Bot.*, xxvii (1889), 111-3.
Lenormand, L., ix.
Leo, Dr. of Metz, his herbarium, 110.
Lewis, S. S., xxiv, xxxiii n. 25, 224.
Lightfoot, Bishop, liv.
Lindeberg, C. J., x, 414.
Lingwood, R. M., xxx n. 6, lxviii, 59, 64, 84, 85, 91, 95, 123, 124, 152, 156, 171, 181, 184, 186, 275, 277, 377, 443.
Linnaeus, his herbarium, lxix; system, lxix, lxx.
Liveing, Prof. G. D., xlviii, xlix, li, liv, lvii-lx, 186, 192, 193.
Llanberis, Cyclopean walls near, xc; ancient fortifications near, xc.
Lloyd, J., of Nantes, ix.
Luard, H. R., xxiii, 194.
London City Mission, xxv.
Ludlow, C. C. B. born at, xxix, lxvii, xc, 183, 230, 232.

Mac Calla, W., Irish botanist, xxiv, 45, 46, 55, 274.
Macgregor, James, D.D., xlvii, 252, 254.
Manual of British Botany, xxii, xxxii n. 20, lxviii-lxxii, lxxviii, lxxix, 117, 291, 292, 293.
Marlborough College, Natural Science there, xix, see Preston, T. A.
Marriott, H., rector of Claverton, lxv, lxvii.
Marsh, Miss, xlvii, 237, 241, 247.
Marshall, E. S., letters to, 424, 425, 428, 429.
Marshall, F.C., xci.
Martyn, J. and T., professors of Botany, xxi.
Mathematical Tripos, only avenue to honours in 1826, lviii.
Mathews, W., letters to, 400-4.
Maurice, F. D., lvi, lvii.
Maxwell, Prof. James Clerk, xxxi n. 8, liv, 228.
Mayor, Prof., xvii-xxxiv, li-lvii, 254, 262-270, 446.
Miller, Prof. W. H., liv, lv, lviii.
Moore, D., lxxii.
More, A. G., 326, 351; letters to, 330-5, 336-351, 399; mem. in *Journ. of Bot.*, xxxiv (1895), 225-7, and *Irish Nat. Mag.*, 1895.
Morrone, xlii, 248, 251, 253, 256, 257.
Moule, Dr. H. C. G., xxvii, lx-lxii, lxxvi, xci, 253, 254.
Moyrus, xli, 218, 219, 371.
Müller, Sir Ferd., v, xlv.
Müller, P. J., lxxx.
Munby, 151, Sept. 12; Giles M., d. 12 Apr. 1876 (*Journ. of Bot.*, xiv, 160).

Natural Science in Cambridge in 1826, lviii.
Needwood, lxvii, 1.
Nees *Genera*, lxx, lxxxvi.
Newbould, W. W., ix, lxx, lxxii, lxxv, 137, 138, 139, 141, 143, 144, 145, 146, 147, 150, 154, 155, 157, 158, 162-165, 166, 170, 171, 178, 180, 181, 185, 186, 188-191, 195, 199, 200,

Newbould, W. W.—*continued.*
202, 224, 226, 231, 243, 244, 247; his death, 247; 283, 285, 295, 296, 298, 330, 332, 336, 337, 345, 386; *D.N.B.*; tribute to his memory by C. C. B., *Journ. of Bot.*, xxiv (1886), 159, 160, 164.
Newcombe, Miss Hessie, martyr, xxv.
Newton, Prof. Alfred, xlviii, xlix, liv.

Overton, T., li, 110, 172.

Paget, Prof. Sir G. E., xix, xciii, 267.
Paget, Sir James, lxxxix.
Painter, W. H., letters to, 422, 437.
Parker, Bishop Henry Perrott, xxv, xliii, liii, lxii, lxiv, 249.
Paton, Dr., missionary, liii, lxiv.
Pavillon, A. Huet de, ix.
Peziza coccinea, lxxvii.
Phillips, Dr. Geo., xci.
Plunket, Archbishop, xxvii, lxiv.
Plymley's *Agriculture of Shropshire*, lxvii.
Porter, Dr. James, xciii.
Potter, M. C., lxxiv.
Power, John A., 266.
Power, Jos., xxii, 266.
Powerscourt, Lord, lxvi.
Preston, T. A., xix, xxxi n. 10, 197; letters to, 330, 351-3, 354, 357, 358, 360-2, 364-6, 369, 408; *Journ. of Bot.*, iii (1865), 358, iv 335, x 125, 351.
Primitiae Florae Sarnicae, xxii, lxviii, lxxxvii, 344.
Purchas, W. H., 184, 185; letters to, 306, 310-1, 313, 315, 320, 328, 335, 358, 377-8, 387, 392, 410; *Journ. of Bot.*, xiii (1875), 126.

Questier, l'abbé, ix.

Rabenhorst, G. L., ix; *Journ. of Bot.* xix (1881), 286-7.
Ray Club, xix, xxxi n. 8, xxxii n. 17, liii, liv, lx, lxxii, lxxiii, lxxxviii.
Ray Society, lxxiii, lxxxviii, 302, 446.
Ready, R. C., xxiv, xxx n. 26 (also W. T.).
Red Lion Club, xx.
Reichenbach, H., ix; his *Icones* and *Iconographia*, lxx, lxxxviii; mem. in *Journ. of Bot.* xxvii (1889), 193-8.
Reuter, G. F., botanist, ix; d. 22 May, 1872 (*Journ. of Bot.* x, 284).
Richmond, Legh, xxvii.
Rigg, John, xxiii, 201, 211.
Robinson, Dr. C. K., xliv, xlv, xci.
Rogers, W. Moyle, xxii, lxxx-lxxxvii; letters to, 431, 439.
Roundstone, xli, 218, 219, 371.
Rubi, vi, xxii, lxxiv, lxxv, lxxviii-lxxxviii, 447; *Journ. of Bot.* iii (1865), 165, vii, 248, 304-8.

St. David's, ancient fort near, xc.
Salter, J. W., xxii, xxxiii n. 22, lxxiv, lxxxviii, 204, 205; C. Darwin's *Life* II^3, 366.
Savage, H. E., xci.
Schkuhr's *Riedgräser*, lxx.
Schultz, C. H., ix.
Schultz, F., ix, lxxxviii, 327; *Journ. of Bot.* xv (1877), 64; d. 30 Dec. 1876.
Scott, Sir Walter, xxxvii, lii.
Searle, Dr. C. E., xci.
Searle, W. G., xxiii, 203.
Sedgwick, Prof. Adam, xxxi n. 8, liv, lviii, lxi, 49, 443.
Selwyn, Bishop, xlv.
Simeon, Charles, xvii, lii, lxxvi, 59, 266.
Simms, E., lxviii, 18.
Sinker, Dr. R., xci.
Smith, Sir J. E., *English Botany*, lxvii; *English Flora*, lxviii, 2; bought the herbarium of Linnaeus, lxix.
Smith, J. J., xxii, 60, 267.
Spanish Church Reform, xxv, liv, lxiv, 234.
Species, lxxi.
Stanley, Bishop E., lvii, 38, 117, 265; *Journ. of Bot.* xix (1881), 259.
Stebbing, Hen. D.D., xl.
Steele, A. W. W., xci.
Stewart, Mr. Mrs. and Miss, martyrs, xxv, 256.
Stokes, Prof. Sir G. G., liv, 164, 165.
Stokes, W. H., 266.
Streane, Dr. A. W., xci.
Sturm's *Deutschlands Flora*, lxx.
Sunday Rest in Botanic Garden, lv, xci-xciii.
Syme, J. T. T. Boswell-, 418; letters to, 366-7, 378, 395, 396; mem. in *Journ. of Bot.* xxvi (1888), 82-4, cf. viii (1870), 136.

Tatham, John, of Settle, 118, July 21; d. 12 Jan. 1875 (*Journ. of Bot.* xiii, 64).
Taylor, Dr. Charles, xliii, li.
Thirlwall, Bishop Connop, lvii; "The School a Temple," iv; "The Christian Naturalist," xcvi; deprived of assistant tutorship, 33, 265; and degrees for dissenters, lxxvi; against University interference in town elections, 36; his excellent sermon, 160.

Todhunter, Dr. I., li, lii.
Townsend, Fred., 313, 315; letters to, 386, 397, 398, 401; on W. W. Newbould, *Journ. of Bot.* xxiv (1886), 163, 169, 171.
Trail, Prof. J. W. H., letters to, 434, 435.
Trimen, Dr., lxxi.
Trotter, H., xci.
Turf, used by Irish for fuel, lxv, lxvi.

Valpy, Dr., of Reading, lxii.
Ventris, E., xxiii.
Vines, Dr., and the new botany, lxxvi.
Vizard, W., artist, xxx n. 1.

Wade, Prof. Sir T. F., xxvi, xxxiv n. 30.
Walker, Anna Maria, eldest d. of John, marries C.C.B., xxix, lxxvii, pedigree.
Walker, Dr., founder of Botanic Garden, xcii.
Westcott, Bishop, xlii, liv, xci, 253.
White, F. B., letter to, 406.
White, Gilbert, lii, lix.
Whitter, Cath., d. of Jo., mother of C.C.B., xxviii.
Wilberforce, Bishop S., and T. H. Huxley at Oxford in 1860, xx, xxxi n. 15; C. R. Darwin's *Life* II^3, 319-325; preaches, 213.
Wilberforce, W., his "Practical View," xvii, xxx n. 2, lii, lxxvi, 3.
Williams, George, xxiii *bis*, 220.
Wilson, W., jun., letters to, 421, 425, 438.
Wirtgen, Phil., ix.
Withering's Arrangement, lxvii, lxviii, 2.
Wordsworth, Wm., "Hallowed Ground," xvi; lii, liv.

Zenana Mission, xxv, 224.

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ERRATA.

P. liii, l. 19, *read* (*without inverted commas*) Flora of the Channel Islands, and of Cambridge.

P. lxxii, l. 26, *read* J. S. Henslow.

P. 17, l. 12, *read* entomologist.

Ibid. June 29 *read* Agardh (*bis*).

P. 30, l. 22, *read Circaea.*

P. 37, April 7, *read Hyphydrus.*

P. 42, Aug. 4, *read flavicornis.*

P. 44, Aug. 26, *read pauciflora.*

P. 57, Aug. 30, and p. 184, Sept. 10, *read parvifolia.*

P. 64, July 18, *read* Grouville (*bis*) and *longus.*

P. 70, March 31, *read* Loddidge's.

P. 145, l. 1, *read noctiflora.*

P. 181, l. 8 from foot, *read* Leckhampton.

P. 184, Sept. 10, *read grandifolia.*

P. 213, July 10, *read* W. T. Thiselton Dyer.

P. 223, Sept. 18, *read Spartina alterniflora* and *Statice Limonium.*

P. 234, April 6, *read serpyllifolia.*

P. 255, Sept. 4, *read Empetrum* for *Lupinum.*

P. 287, l. 7, *read* Wahlenberg.

P. 343, l. 24, *read* of Jordan.

P. 344, l. 10, *dele* comma before *Vicia.*

P. 346, l. 10, *read* Le Gall's.

P. 384, l. 21, *read* very like *V. parvula.*

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